

Office of the Legislative Auditor

State of Montana



Report to the Legislature

November 1994

Performance Audit Report

Air Quality Program

Department of Health and Environmental Sciences

The intent of Montana's air quality program is to protect human health and safety. This audit determined program priorities are being met. Program operations could be improved in several areas:

- ▶ Ambient air monitoring.
- ▶ Air quality permit issuance.
- ▶ Inspection and compliance monitoring.
- ▶ Enforcement.

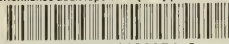
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Office of the Legislative Auditor

Performance Audit

Air Quality Program

Department of Health and Environmental Sciences

Members of the audit staff involved in this audit were: Mary Zednick, Tom Cooper, and Catherine L. Scarff.

Table of Contents

	List of Tables	vii
	Appointed and Administrative Officials	viii
	Report Summary	S-1
Chapter I	Introduction	1
Introduction	Audit Objectives	1
	Audit Scope and Methodologies	2
	Compliance	3
	Management Memorandums	4
	Report Organization	6
	Issue For Further Study	8
	EPA Does Not Agree with Use of Permit Fees for Match of Federal Grant Funds	8
Chapter II	Introduction	11
Background	Administration of Clean Air Acts	11
	Federal Oversight Conducted by the EPA	11
	EPA Provides Program Funds	12
	EPA Oversight is Divided	12
	Montana/EPA Agreement Establishes a Work Plan for EPA and AQD	12
	Air Quality Standards	13
	Some State Standards are More Stringent than Federal ...	14
	1990 National Clean Air Act Amendment	15
	Title V Major Source Operating Permit Program	15
	Title V Rules Prepared	15
	Title V Sources Identified	15
	Title III Toxic Pollutants	16
	Annual Operation Fee Program	16
	Local Air Pollution Control Programs	16
	Division Organization and FTE	17
	Division Expenditures	18

Table of Contents

Chapter III Ambient Air Monitoring: Key to Montana's Air

Introduction	19
Ambient Air Data is Used to Reduce Pollution Levels	19
Reaction to Standards Exceedance is Lengthy Process ...	20
Ambient Air Quality Assurance Program	20
Ambient Air Monitoring Sites	21
Network Site Operations	22
Air Quality Permits may also Require Ambient Air Monitoring	22
Types of Monitoring Equipment Used	23
Equipment Maintenance	23
Data Collection, Review, and Validation	23
Data Collection	23
Data Review and Validation Procedures	24
Company-Operated Site Procedures	25
Establishing Confidence In Data	25
Audits Determine Data Quality	26
Effectiveness of Division Monitoring Procedures	26
<i>Conclusion: Division Meets Data Completeness Goal</i>	27
<i>Conclusion: Network Continuous Monitor Process is Effective</i>	27
Procedures for Data from Network Manual Samplers Could be Improved	27
Timeliness of Processing Manual Sampler Filters and Data	27
Precision and Calibration Documentation is not Complete	29
Company-Operated Monitors and Samplers	30
Timeliness and Control of Company Information Could be Improved	30
Number of Site Performance Audits not Sufficient	31
Audit Limitations Impact Data Confidence	32
<i>Assessment of Ambient Air Audit Objective</i>	33

Chapter IV State Implementation Plans

Introduction	35
Implementation Plans	35
Overall State Implementation Plan	35
Area State Implementation Plans	35
Point Source State Implementation Plans	36

Table of Contents

Areas Designated As Nonattainment	36
SIP Calls	37
SIP Development Procedures	38
Procedures for Writing Area Source SIPs	38
Control Strategies Developed	38
Enforcement of Control Strategies Determined	39
SIP Documentation Submitted to EPA	40
SIP Decisions Published for Public Comment	40
Procedures for Writing Point Source SIPs	41
<i>Conclusion: SIP Preparation Process is Responsive</i>	41
Contingency Measures	41
Attainment	42
EPA can Impose Sanctions	42
Lack of a SIP can Lead to Federal Control	43
Status of SIPs	43
SIP Status Summary	46
<i>Assessment of State Implementation Plans Audit Objective</i> ..	46
Introduction	49
Permitting Criteria	49
Pollutants of Concern	49
Local Air Pollution Control Permits	50
Permitting Activity	50
Federal Mandates will Increase Permitting Workload	50
Air Quality Permit Application Fee	51
Permit Fee Calculation Verified	51
<i>Conclusion: Permit Fee Charges Consistently Reviewed and Assessed</i>	51
Air Quality Permit Application Process	51
Pre-Application Meetings are Useful	54
Application Completeness Determination	54
<i>Conclusion: Staff Follow 30-day Completeness Determination Criteria</i>	54
Staff Coordination of Permit Conditions	55
<i>Conclusion: Staff Coordination Documented</i>	55
Preliminary Determination Completed	55
<i>Conclusion: PD Timing Met</i>	55
Department Determination	56

Chapter V Air Quality Permits

Table of Contents

Compliance with DD Timing Criteria not Met	56
Lack of Resolution Results in Appeal to the MBHES	56
Statutory Language Should be Revised	57
Final Permit Issued	58
Portable Sources Permitted	58
<i>Conclusion: Portable Source Permit Application</i>	
<i>Procedures Consistent and Timely</i>	58
Air Quality Open Burning Permits Issued	58
<i>Conclusion: Open Burning Permit Application Processing</i>	
<i>Consistent and Timely</i>	59
Unpermitted Emission Sources	59
Identification of Unpermitted Sources is Gradual	59
Division Procedures are Needed	61
<i>Assessment of Permitting Audit Objectives</i>	62
Chapter VI	
Inspection and	
Compliance Monitoring	
Introduction	63
Facility Inspection Requirements	63
Facility Inspection Process	64
Need for a Checklist for Inspection Preparation, Site	
Documentation, and Reporting	64
Guidance and Formats are Available	65
CMS Plan Targeted 127 Sources	66
Division Revised Inspection Plan	66
Scheduling Efficiency and Effectiveness Requires	
Improvement	68
Unannounced Inspections	68
Inspection Scheduling Based on Opacity Check	
Requirement	69
Specific Opacity Levels Required by Air Quality Rules	69
<i>Conclusion: Division Opacity Check Procedures Add</i>	
<i>Consistency to Inspections</i>	69
Opacity Checks may be Separate from Inspections	69
Inspection Scheduling Requires Review and	
Coordination	70
Better Utilization of Staff Could Increase Scheduling	
Efficiency	70
Alternatives Could Increase Inspection Scheduling	
Effectiveness	71
Compliance Monitoring	72
Review of CEM and Stack Tests Delayed	73
AIRS Database not Updated	74
Tracking System Needed	74

Table of Contents

	Complaints Program	75
	Complaint Investigation Procedures	75
	<i>Conclusion: Initial Complaint Investigation Timely</i> . .	75
	Tracking System Necessary for Complaint Resolution . . .	76
	Compliance and Inspection Staff Visibility Impacts	
	Deterrence	77
	<i>Assessment of Inspection and Compliance Monitoring Audit</i>	
	Objectives	78
Chapter VII	Introduction	79
Air Quality	Enforcement Background	79
Enforcement	Federal Oversight of Enforcement	80
	Penalties are Assessed	80
	Enforcement Process	81
	Citations are Issued for Violations	83
	Citation Tracking and Follow-up is Responsibility of	
	Individual Inspectors	83
	Enforcement Request and Litigation Risk Assessment . .	85
	Impact of Attorney Generated Technical Reviews for	
	Enforcement Requests and Litigation Risk	
	Assessment	85
	AO or Civil Court Proceedings Followed	87
	AO Determination Pursues Corrective Action	87
	Civil Court Proceeding Pursues Corrective Action and	
	Penalty	87
	Enforcement Alternatives	87
	Civil Court Most Used	88
	Recent Penalties Achieve Deterrence Effect	88
	Few Administrative Orders are Processed	88
	APO and Notice of Noncompliance are not Used	88
	Enforcement Effectiveness and Deterrence are Limited . .	89
	Division Needs Procedures for Low Priority Cases	89
	Permit Application Example of Low Priority	
	Enforcement	90
	Department to Develop Rules for APO	90
	<i>Assessment of Air Quality Enforcement Audit Objective</i>	91
VIII	Some Air Quality Activities Impact Multiple Programs	93
Additional Division	Local Air Pollution Control Contracts	93
Functions	Contract Requirements are Negotiated	94
	Could Additional Work be Included in County Contracts? .	95

Table of Contents

Contract Programs Enhance Air Quality Communication .	95
<i>Conclusion: County Contracts are Useful</i>	95
Annual Operation Fee Billing Process	96
<i>Conclusion: Fee Billing Process is Timely and Accurate</i> .	96
Air Pollution Control Advisory Council	96
Intent of the Legislation	97
Division Organization and Staff Assignment Reviewed	98
<i>Conclusion: Organization and Staff Assignment Result in the Accomplishment of Air Quality Priorities</i>	98
Agency Response	
Department of Health and Environmental Sciences	101

List of Tables and Figures

<u>Table 1</u>	Ambient Air Standards	14
<u>Table 2</u>	Air Quality Division Expenditures and Revenues (FY 1991-92 through 1993-94)	18
<u>Table 3</u>	SIP Timing Requirement	44
<u>Table 4</u>	SIP Contingency Measure Timing Requirements	45
<u>Table 5</u>	Annual Inspection Activity (Fiscal Year 1992-93)	67
<u>Table 6</u>	County Grant Funding (FY 1991-92 through 1993-94)	94
<u>Figure 1</u>	Air Quality Regulatory Process	7
<u>Figure 2</u>	Organization and FTE of Air Quality Division	17
<u>Figure 3</u>	Ambient Air Network Sites	22
<u>Figure 4</u>	Nonattainment Areas in Montana	37
<u>Figure 5</u>	Flowchart of Permit Issuance Process	53
<u>Figure 6</u>	Flowchart of Enforcement Case Process	82

Appointed and Administrative Officials

Montana Board of Health and Environmental Sciences

Term Expires

Raymond W. "Rib" Gustafson	Conrad	January 1, 1997
Verna M. Green	Helena	January 1, 1997
Paul Kathrein, O.D.	Great Falls	January 1, 1997
Remington C. Kohrt	Whitefish	January 1, 1995
Dennis D. Schreffler, MD	Billing	January 1, 1995
Jeremy Thane	Missoula	January, 1, 1995
Vacant		

Department of Health and Environmental Sciences

Bob Robinson, Director

Air Quality Division

Jeff Chaffee, Acting Administrator

Report Summary

Introduction

The Legislative Audit Committee requested a performance audit of the Air Quality Division (AQD), Department of Health and Environmental Sciences. The objective of the audit was to determine if programs were in place to accomplish the fundamental AQD mission "to protect human health and safety." To gather information concerning the objective, we reviewed division files, accompanied staff during inspections of industrial facilities and air monitoring sites, and interviewed division, county and industry officials.

Clean Air Acts Enacted

Congress enacted the National Clean Air Act (42 U.S.C. 7401, et seq.) in 1963. The act places primary responsibility for prevention and control of air pollution with state and local governments. In response to the National Clean Air Act, the Montana Legislature passed the Clean Air Act of Montana (Title 75, chapter 2, MCA) in 1967. The policy and purpose of the act is to "...achieve and maintain such levels of air quality as will protect human health and safety. . ." (section 75-2-102(1), MCA.) The Montana Act also strives to: 1) prevent injury to plant and animal life and property, 2) foster the comfort and convenience of people, 3) promote the economic and social development of the state, and 4) facilitate the enjoyment of natural attractions.

AQD Mission Assessed

To determine whether AQD programs accomplish the fundamental mission "to protect human health and safety," we examined the division's primary functions:

- ambient air monitoring,
- state implementation plan development,
- air quality permitting,
- inspection and compliance monitoring, and
- enforcement.

We established audit objectives in the form of questions for these five functional areas. Our assessment of the objectives for the five areas is provided at the conclusion of each of the following summaries.

Report Summary

Ambient Air Monitoring

Audit Objective: Do division procedures provide for accurate, timely and reliable ambient air monitoring data?

Ambient air is the portion of the atmosphere, external to buildings, to which the general public has access. Montana and National Ambient Air Quality Standards (NAAQS) establish maximum levels for air pollutants identified by the Environmental Protection Agency (EPA). Air pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and airborne particulate matter.

Federal regulations require states to operate a network of state and local air monitoring stations to collect ambient air data for pollution control strategy development, ambient air assessment, and determination of compliance with NAAQS. Staff react to NAAQS exceedances by increasing monitoring frequency or the number of monitors/sites. All exceedances of ambient air standards identified during our review were already documented by staff.

There are two types of ambient air monitoring equipment: 1) continuous monitors which analyze gaseous pollutants (CO, NO_x, SO₂), and 2) manual samplers which use a filter to collect particulate matter. Monitoring sites are operated and maintained by state/county staff, or by company officials if sites are required by air quality permits.

Monitoring requires strict equipment and data control to establish:

1. data completeness to ensure an adequate quantity of data is collected,
2. traceability to verify equipment maintenance and calibration,
3. precision to ensure the repeatability of the equipment measuring pollutant values, and
4. accuracy to ensure data measurement reflects the actual amount of pollutants in the air.

Oversight for data quality assurance is AQD's responsibility.

We evaluated monitoring site data collection, review, and validation procedures to establish the timeliness of data processing, completeness, traceability, precision and accuracy.

Conclusion: Ambient Air Monitoring

The section supervisor establishes workload priorities which allow the Ambient Air Monitoring Unit to meet the division's overall monitoring objectives. The division meets its data completeness goal by collecting and validating over 75 percent of all state network and company-operated ambient air monitoring site data.

However, data receipt and review procedures, which help establish data validity for completeness, are not followed consistently for manual sampler monitoring sites or company-operated sites. Additionally, staff do not consistently track precision and accuracy documentation for all sites. We recommend the division improve control procedures for ambient air monitoring data collection, review, and validation to assure timeliness and improve data traceability, precision, and accuracy.

While the division conducts monitoring site performance audits to verify data accuracy, the availability of resources to conduct audits has reduced quality assurance of monitoring data for some sites. We recommend the division assess workload to consider alternatives to increase site audits conducted by staff.

State Implementation Plan Development

Audit Objective: Do division procedures result in writing timely and federally acceptable state implementation plans (SIP)?

State implementation plans (SIP) are required by EPA when an area is identified as nonattainment of a national ambient air standard. SIPs establish control strategies and responsibilities for returning the area to and maintaining attainment. In addition to industrial sources, other types of emissions which may need to be controlled include road dust and smoke from wood stoves and open burning.

Montana has an overall SIP as well as area and point source SIPs. The overall SIP incorporates state laws and administrative rules pertaining to the state's air quality program. Area SIPs are

Report Summary

required when a geographic area violates a standard and has many different sources of pollutants. Point source SIPs are required when industrial sources cause a geographic area to violate, or potentially violate, a standard. SIPs are developed by division staff in conjunction with the local government entity and/or individual sources in the nonattainment area.

The SIP development process and final plan are guided by a series of federally-established milestones designed to assure area compliance is timely and effective. EPA monitors the milestones during plan development and implementation. EPA can impose sanctions which reduce available federal air quality and/or highway funding if dissatisfied with the department's SIP development.

Conclusion: SIP Development Process

Although some submittal dates set by EPA for SIPs and contingency measures were not met on time, EPA sanctions were not imposed. At the time of our audit, six SIPs had been submitted to EPA. Four were approved, one was deemed complete, and one needed minor additional information before expected EPA approval.

SIPs are developed to reduce the amount of pollutant in an area so standards are not violated in the future. In the six Montana areas with SIPs, standards have not been violated since implementation of SIP control measures. We found AQD's SIP development process is responsive to local, state, and federal requirements, including human health and safety issues.

Air Quality Permitting

Audit Objectives: Do division procedures provide for identification of air pollution sources and timely issuance of air quality permits?

Are air quality permit application and annual fees accurately assessed and collected?

Air quality permits are used to control emissions of pollution sources. Administrative rules require most emission sources to apply for air quality permits prior to construction, alteration, installation, or use of any air contaminant source or stack. Permits are required for all sources or stacks with the potential

to emit more than 25 tons per year of identified pollutants such as CO, NO_x, and SO₂. Lead has a five ton limit. Gravel crushers and asphalt/concrete plants emitting more than five tons per year of any pollutant require air quality permits as well. Permit application review and permit issuance involves technical review of state and federal air quality regulations, consideration of emission estimates and control options, evaluation of monitoring and testing data, analysis of ambient air impacts, and public comment.

Statute requires permitting program activities be funded through fees paid by applicants and emission sources. Application processing and annual emission fees are based on ton per year pollutant emission rates approved by the Montana Board of Health and Environmental Sciences and listed in the Administrative Rules of Montana. Permit application fees are based on emission estimates determined by the applicant and verified by division staff. Annual emission fees are based on historical documentation of actual pollutant emissions.

Conclusion: Identification and Permit Issuance

The division lacks procedures to pursue emission sources which may exceed the statutory 25 tons per year criteria, and have not submitted air quality permit applications as required. By developing procedures for notifying and following-up on unpermitted sources, the division could improve the air quality permitting process. We recommend the division establish procedures to pursue application submittal from unpermitted emission sources.

Upon receipt of a permit application, staff determine completeness of the application. Following completeness, staff prepare a preliminary determination which identifies source operating and air pollution control conditions. We found the division's air quality permit application review process pertaining to determining application completeness and preliminary determination is timely and consistent with statutory and administrative rule criteria.

Statute allows staff 60 days to complete a department determination which formalizes preliminary determination conditions. File documentation showed 60 days is not always adequate to

Report Summary

resolve complex air quality permit issues. A statutory change allowing extension of the 60-day criteria when necessary would provide staff with the flexibility to resolve issues and comply with state statute. We recommend the department seek legislation to change statute to provide for mutually agreed upon permit processing extensions.

Conclusion: Fees

AQD consistently assesses and collects permit application and annual emission fees. Staff assure compliance with administrative rule fee rate schedule requirements.

Inspection and Compliance Monitoring

Audit Objectives: Do division procedures ensure timely and comprehensive inspections which accurately assess industry compliance with Montana's air quality and air pollution control requirements?

Do division procedures provide for accurate and timely source emissions data?

Compliance with federal and state air quality statutes, rules, and air quality permits is determined by: 1) on-site facility inspections conducted by department staff, and 2) routine review of emissions data submitted to AQD by industrial sources.

During facility inspections, division staff examine emission sources and stacks, air pollution control equipment, and operating procedures. Most facility inspections are announced and staff prepare formal reports following inspections.

Industry sources also provide a variety of emissions and test data for division staff to review to determine on-going compliance with air pollution control requirements. Data submission is based on pre-determined test and collection schedules.

Conclusion: Inspection

Inspector expertise and competency provide a foundation for a viable inspection and compliance monitoring program. Although Compliance and Enforcement (C&E) Section priorities resulted in the inspection of the most significant emission sources in Montana, improvements in inspection preparation, documentation, and scheduling are needed to increase inspection efficiency and effectiveness. Better scheduling could increase the number

of inspections accomplished and inspection frequency. More inspection activity should impact the department's ability to deter sources from future violations of air quality statutes/rules. We recommend the department develop a checklist for facility inspections and improve inspection scheduling effectiveness.

Conclusion: Emission Data

The division's emissions data receipt and review process lacks control. AQD does not track required emission data to verify receipt from sources or review by staff. Emission data tracking and control capabilities are necessary for division staff to assure compliance with air pollution control criteria. We recommend the department establish controls for timely receipt and review of compliance monitoring and source emissions data.

Enforcement Activity

Audit Objective: Do division procedures result in air quality program enforcement which appropriately penalizes violators and deters future violations of Montana air quality and air pollution control requirements?

Following determination of an air quality violation by AQD staff, the department determines the need for enforcement action. Enforcement is described by EPA as a necessary means of achieving industry compliance with air quality requirements. Enforcement also acts as a deterrent to other industry sources. Assuring violators return to compliance with applicable air quality and air pollution control regulations is an inherent part of the enforcement process.

According to statute, the state may cause written notice to be served, indicating the department is not required to pursue all air quality violations through formal enforcement action. Enforcement can be as simple as sending a warning memo to an air quality rule violator requesting correction of the deficiency. At the other end of the enforcement scale, civil court proceedings can result in penalties and require the installation of air pollution control equipment.

The department can obtain voluntary compliance through warning, conference, or other appropriate means. Failing voluntary compliance, or following a determination by the department of the need for formal enforcement action, statutes

Report Summary

prescribe criteria for issuing administrative orders (AO), administrative penalty orders (APO), and notices of non-compliance. All provide a means to obtain necessary correction and/or penalty. The AQD bases enforcement decisions on factors such as the source's compliance history, significance of the violation, and cooperative attitude.

Conclusion: Enforcement

AQD has increased air quality enforcement case activity over the past three to four years, positively impacting deterrence for some industry types. The division effectively documents compliance with penalty criteria designed to deter air quality violations.

Enforcement caseload is limited to cases defined by EPA as significant violators because of noncompliance with specific federal regulations. File documentation indicates these priority cases require extensive legal and technical case development and review by staff. Recent enforcement case activity has consisted mostly of civil court proceedings and a few AOs, because the department has not prepared administrative rules or staff guidelines for use of the APO or notice of noncompliance enforcement options. Department plans to use additional FTE for enforcement case workload should increase the number of cases processed and improve the department's capability to deter future violations of Montana air quality and air pollution control requirements. We recommend the department more effectively balance enforcement case technical review and research workload between C&E and attorney staff, develop rules for administrative penalty orders, and establish procedures to increase staff use of available enforcement alternatives.

Conclusion

AQD organizational structure and staff assignment provides division management the capability to establish priorities for the air quality requirements viewed as the most significant in the five primary areas. While the current structure and staff assignment allows management to accomplish priorities, our findings and recommendations reflect areas requiring additional emphasis to ensure the intent of the Clean Air Act is being met.

Chapter I

Introduction

Introduction

The Legislative Audit Committee requested a performance audit of the Air Quality Division, Department of Health and Environmental Sciences. This audit report presents information and recommendations pertaining to the air quality and air pollution control programs administered by the Air Quality Division (AQD).

Audit Objectives

The objective of the audit was to determine if programs were in place to accomplish the fundamental AQD mission "to protect human health and safety." To determine if the division was accomplishing its mission, we established audit objectives based on the following questions:

1. Do division procedures provide for accurate, timely, and reliable ambient air monitoring data?
2. Do division procedures result in writing timely and federally acceptable state implementation plans (SIP)?
3. Are air quality permit application and annual fees accurately assessed?
4. Do division procedures provide for identification of air pollution sources and timely issuance of air quality permits?
5. Do division procedures ensure timely and comprehensive inspections which accurately assess industry compliance with Montana's air quality and air pollution control requirements?
6. Do division procedures provide for accurate and timely source emissions data?
7. Do division procedures result in air quality program enforcement which appropriately penalizes violators and deters future violations of Montana air quality and air pollution control requirements?
8. Is contracting with counties an efficient and effective method to assure compliance with state and federal air quality and air pollution requirements?
9. Do division procedures ensure timely collection of annual operating permit fees?

Chapter I

Introduction

Audit Scope and Methodologies

The audit was conducted in accordance with government auditing standards for performance audits. The audit covered processes and procedures associated with the most significant AQD functions: ambient air monitoring, state implementation plan development and revision, permit processing, compliance monitoring, and enforcement. Direct support functions such as computer modeling of air pollution sources/emissions, data management, permit fee assessment and billing, and air quality complaint investigation were included as well. The performance audit covered division operations from January 1991 through March 1994.

We evaluated the timely receipt and review of ambient air monitoring site data from counties and companies. To accomplish this, we reviewed AQD manuals, interviewed division staff, county officials and company representatives, observed on-site data collection procedures, and assessed data processing. We reviewed data verification procedures for calibration, precision and accuracy, and observed division staff performing equipment audits, maintenance, and calibration.

We reviewed the process for developing, updating, and revising state implementation plans (SIP) to determine compliance with federal criteria. We examined the current status of all Montana SIPs and Environmental Protection Agency (EPA) update/revision requirements resulting from the 1990 Clean Air Act Amendment. We examined the SIP development negotiation process established between AQD, EPA, and local communities/industry.

We evaluated procedures followed from application receipt through final permit issuance for new source/construction air quality permits. We also examined open burning (trade waste, fire fighter training, slash) and non-stationary source (asphalt plants, gravel crushers) air quality permit application submittal and review procedures. We interviewed division staff and industry representatives and reviewed a sample of permit files. We also evaluated division approaches to identifying the total population of sources which require air quality permits.

We assessed the process for conducting and documenting compliance monitoring and inspections to determine program effectiveness. We reviewed the annual Montana/EPA Agreement and the annual compliance monitoring strategy document, interviewed division staff, EPA officials and industry representatives, observed on-site inspections conducted by division staff, and reviewed compliance files. We also examined division review and processing of source emission data to determine effectiveness of monitoring emission sources.

We evaluated enforcement activities, including appeal and litigation procedures, penalty determination, and EPA involvement to determine enforcement effectiveness. We reviewed enforcement procedures for conducting citation follow-up, establishing case priorities, deciding whether to issue an administrative order or file in civil court, and determining case fines and penalties.

We reviewed county contract files and interviewed division staff and county air pollution control officials to determine the efficiency and effectiveness of utilizing contracts for local air pollution control. We examined procedures for determining and negotiating county contract requirements.

Although EPA conducts evaluations of air quality programs, we did not rely on EPA's review of division activities to conclude on audit objectives. We did consider the effect of EPA oversight on department staff's decision-making.

Our review of management controls focused on staff utilization patterns.

Compliance

As part of the audit, we examined compliance with applicable state statutes and administrative rules relating to the air quality and air pollution control programs. We concluded that:

- The Montana Board of Health and Environmental Sciences (MBHES) follows statutory requirements concerning air quality hearings, orders, and fee schedules.

Chapter I

Introduction

- The department establishes rules for administration of air pollution control requirements, and uses of local air pollution control programs.
- The MBHES establishes ambient air standards, emission levels, and emissions measurement systems.
- The MBHES provides rules and the department establishes procedures for air quality permit application review, issuance, and processing timeliness for construction, installation, alteration, or use of any air contaminant source.
- The MBHES provides rules and the department establishes procedures for assessment and billing of air quality permit and annual operation fees.
- The department establishes procedures for air quality inspection, compliance monitoring, and violation enforcement programs.

We found the division was not in compliance with the following:

- Air quality permit department determinations are not always issued within 60 days from submittal of a complete application.
- The Air Pollution Control Advisory Council (APCAC) does not hold two meetings each calendar year.

We address the department determination issue in Chapter V and APCAC in Chapter VIII.

Management Memorandums

During the course of our audit, we noted policy and procedure concerns which were minor relative to other issues addressed in the audit report. We presented recommendations to the division which, if adopted, we believe could result in improvements in operating effectiveness. We sent a management memorandum to the Department of Health and Environmental Sciences containing the following recommendations:

- document division staff response to public air quality complaints.

- establish policy for inspection staff regarding issuance of citations immediately following on-site determination of an air quality violation.
- improve communication and coordination between division staff during SIP development by distributing regularly scheduled progress reports.
- develop procedures to assure retention and control of potential court documents supporting ambient air monitoring site data.
- prepare ambient air monitoring network site documentation required by the Code of Federal Regulations.
- evaluate the need to prepare the "Montana Air Quality Data and Information Summary", since the information is available in other sources.
- establish procedures to date stamp manual sampler filters hand delivered to the division by site operators.
- establish risk categories for company ambient air monitoring sites to help prioritize site system audits.
- document approval of air quality permit transfer requests.
- revise the spreadsheet used to accomplish the annual air quality fee billing to ensure all facilities are billed.
- evaluate computerized data transfer to increase staff efficiency and reduce possibility of errors resulting from manual transfers of data.
- establish procedures to ensure availability of current emission data utilized by division staff.
- establish procedures to ensure counties submit quarterly status reports as required by air pollution control contracts.
- establish procedures to monitor inspector report preparation to ensure availability within 60 days.
- establish procedures for distribution of facility inspection reports to affected industry sources and counties.

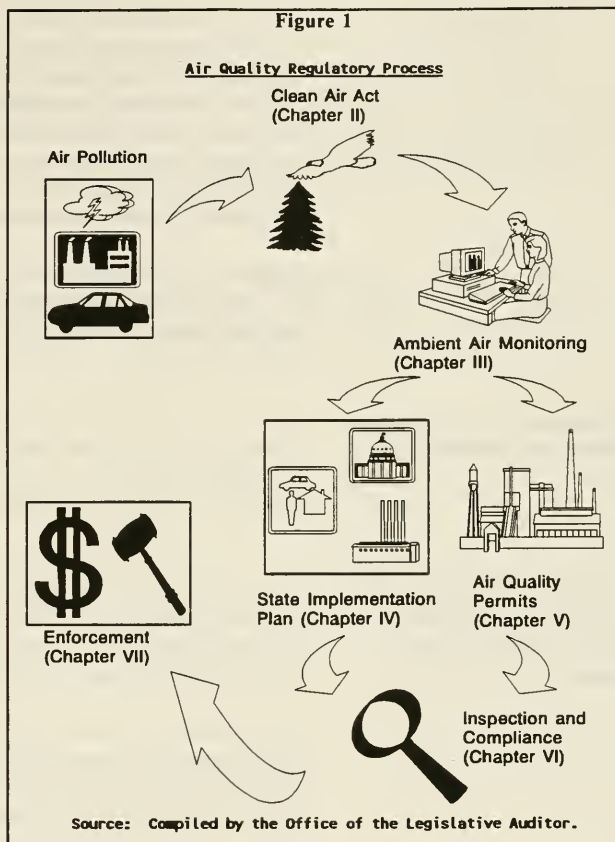
Chapter I

Introduction

Report Organization

This report is presented in eight chapters. Chapter I summarizes the objectives and scope of our performance audit. Chapter II provides background information on air quality program federal and state legislation, program administration, and EPA oversight.

Chapters III through Chapter VII are organized to represent a process approach to air quality regulation. The following figure illustrates the process and identifies the chapters which discuss each step of the process.



Chapter III discusses ambient air monitoring criteria, site operations, and data collection and review. Collection and review of ambient air monitoring data is fundamental to SIP development. SIPs are established to assure compliance with national and state air pollution standards and to control localized air pollution problems. Chapter IV discusses the SIP development process. Ambient air data also affects the need for air quality permits designed to control pollutant emissions from industrial sources. Chapter V examines the permitting process. Air pollution

Chapter I

Introduction

control requirements resulting from SIPs and permit conditions establish facility inspection and compliance monitoring criteria. Chapter VI addresses inspection and compliance monitoring. Violations of air quality rules determined through ambient air monitoring, facility inspection, or compliance monitoring are considered by the department for enforcement. Chapter VII discusses the division's enforcement program.

Chapter VIII addresses additional activities which cross functional lines within the division such as local air pollution control programs, permit fee billing, and the Air Pollution Control Advisory Council.

Issue For Further Study

During our audit, we identified an issue which will require additional evaluation because of the potential impact on the capability of the division to administer air quality programs.

EPA Does Not Agree with Use of Permit Fees for Match of Federal Grant Funds

The department uses General Fund and permit fee money to provide a match to receive federal grant funding for air pollution control programs. In 1994, the required state match to federal dollars increased from 25 percent to 40 percent.

EPA indicated the majority of permit fees may not be counted as part of the match, because permit fees are intended to support reasonable administrative costs of state permit programs. EPA makes a distinction between permit program activities required by law to be funded by permit fees and other air pollution control activities which may be funded using federal grant funds. These other activities include facility inspection, compliance monitoring, and ambient air monitoring.

From the department's viewpoint, if the current level of General Fund is maintained, and permit fees cannot be used for match, significant program reductions are likely. Existing state and county programs will be decreased. According to division staff, for the 1994-95 biennium available state General Fund and permit fee money is adequate for federal grant match.

AQD is considering alternatives for resolving this potential problem and has established a dialogue with several other western states. The intent is to eventually present a united position in an attempt to reverse EPA policy. Montana, along with other states, developed its permit fee programs based on the concept fees could be used for many air quality requirements, including match for available federal dollars designated for air pollution control programs.

Additional work is necessary to determine the potential impact on the division's ability to assure compliance with the Clean Air Act of Montana if appropriate match funding is not available.

Chapter II

Background

Introduction

Congress enacted the National Clean Air Act (42 U.S.C. 7401, et seq.) in 1963. The act places primary responsibility for prevention and control of air pollution with state and local governments. In response to the National Clear Air Act, the Montana Legislature passed the Clean Air Act of Montana (Title 75, chapter 2, MCA) in 1967. The policy and purpose of the Clean Air Act of Montana is to ". . . achieve and maintain such levels of air quality as will protect human health and safety . . ." (section 75-2-102(1), MCA). The Montana Act also strives to: 1) prevent injury to plant and animal life and property, 2) foster the comfort and convenience of people, 3) promote the economic and social development of the state, and 4) facilitate the enjoyment of natural attractions.

Administration of Clean Air Acts

The Department of Health and Environmental Sciences (DHES), Air Quality Division (AQD), is responsible for implementing regulations in the National Clean Air Act and administering the Clean Air Act of Montana. The Montana Board of Health and Environmental Sciences (MBHES) is responsible for adopting, amending, and repealing rules for administration, implementation, and enforcement of the Clean Air Act of Montana. The MBHES also conducts hearings and issues orders to assure compliance with the intent of the Montana Act. Statute also provides for an Air Pollution Control Advisory Council (APCAC) to advise the department on air quality matters of concern.

Federal Oversight Conducted by the EPA

The Environmental Protection Agency (EPA) provides federal oversight of Montana's air quality and pollution control programs. The state must demonstrate its programs are equivalent or more stringent than federal programs and provide sufficient resources to assure program enforcement, thus ensuring coverage of EPA requirements.

Chapter II Background

EPA Provides Program Funds

The EPA provides funds to enable the state to accomplish air quality program requirements. If the state does not assure coverage of EPA requirements, federal funds may be lost and the EPA could administer the air quality program. Members of the regulatory community would then deal directly with EPA; follow federal air quality rules; pay air quality permit and emission fees based on federal guidelines; and would be subject to federal enforcement criteria which is more stringent than Montana's.

EPA Oversight is Divided

EPA divides responsibility for oversight between the Region VIII office in Denver, Colorado, and the Montana Office of the EPA in Helena. The Region VIII EPA office provides oversight of AQD's air quality permit program, ambient air monitoring program, and state implementation plan development. The Montana Office of the EPA conducts oversight of AQD compliance monitoring, inspection, and enforcement. The Montana Office conducts monthly meetings with division staff to review enforcement case status, and conducts a limited number of "over-the-shoulder" facility inspections with AQD inspectors.

Montana/EPA Agreement Establishes a Work Plan for EPA and AQD

The Montana/EPA Agreement (MEA) is an operating agreement between EPA and the state which includes work plans for water, pesticides, and underground storage, as well as air quality. For air quality, the MEA outlines program milestones and resources necessary for:

1. Air Quality Permit Programs (new source reviews and operating permits).
2. State Implementation Plan Development (air quality non-attainment areas and identified pollutants).
3. Ambient Air Monitoring (state and industry monitoring sites and pollutants).
4. Annual Point Source Emission Inventory (state-wide inventory).

5. Enforcement and Compliance (enforcement, compliance monitoring strategy/inspection/reporting, and continuous emissions monitoring).

Air Quality Standards

National Ambient Air Quality Standards (NAAQS) and Montana Ambient Air Quality Standards (MAAQS) define federal and state pollutant levels for criteria pollutants. There are two categories of federal standards: 1) Primary, which define levels of air quality judged as necessary, with an adequate margin of safety, to protect public health, and 2) Secondary, which define levels of air quality judged as necessary to protect public welfare from any known or anticipated effects, such as impacts to plant and animal life or the environment. Federally prescribed criteria pollutants monitored in Montana are:

Particulate matter - Particulate matter may originate from natural sources such as forest fires and erosion or from automobiles, industrial processes, unpaved roads, agriculture, and construction. PM-10 is particulate matter with an aerodynamic diameter of 10 microns or less.

Sulfur dioxide (SO₂) - SO₂ originates from burning fossil fuels such as coal or oil and the smelting of metal ores.

Carbon monoxide (CO) - CO is a by-product of incomplete combustion of organic fuels.

Lead - Lead sources include automobiles and ore smelters.

Nitrogen Oxides (NO_x) - NO_x originates in high temperature combustion processes including diesel engines.

EPA and state laws and rules cover additional pollutants (ozone, fluoride, mercury, hydrogen sulfide, vinyl chloride, etc.), but these have limited emissions in Montana and are monitored when the pollutant source is identified, usually during the permitting process, and emissions could lead to an exceedance of standards.

Chapter II Background

Some State Standards are More Stringent than Federal

In some cases, Montana ambient air standards are more stringent than federal standards. For example, Montana's standard for sulfur dioxide (SO₂) is 0.02 parts per million (ppm) annual average, while the federal standard is 0.03 ppm. A state's more stringent standard can be further tightened by specific control requirements related to source or geographic area. Montana and national air quality standards are listed below.

Table 1

Ambient Air Standards

<u>Pollutant</u>	<u>Montana Standard</u>	<u>Federal Primary Standard</u>
Particulate Matter 10 Microns (PM-10)	50 g/m ³ expected annual average 150 g/m ³ expected 24-hr average*	50 g/m ³ expected annual average 150 g/m ³ expected 24-hr average*
Sulfur Dioxide	0.02 ppm annual average 0.10 ppm 24-hr average* 0.50 ppm 1-hr average**	0.03 ppm annual average 0.14 ppm 24-hr average*
Carbon Monoxide	9 ppm 8-hr average* 23 ppm hourly average*	9 ppm 8-hr average* 35 ppm hourly average*
Nitrogen Dioxide	0.05 ppm annual average 0.30 ppm hourly average*	0.05 ppm annual average
Photochemical Oxidants (ozone)	0.10 hourly average*	0.12 ppm 1-hr average*
Lead	1.5 g/m ³ 90-day average	1.5 g/m ³ calendar qtr. avg.
Foliar Fluoride	35 g/g ³ grazing season avg. 50 g/g ³ monthly average	None
Hydrogen Sulfide	0.05 ppm hourly average*	None
Settled particulate (dustfall)	10 gm/m ² 30-day average	None
Visibility	Particle Scattering coefficient of 3×10^5 per meter annual average	None

g/m³ = micrograms pollutant per cubic meter of sampled air.

ppm = parts pollutant per million parts of sampled air.

g/g³ = micrograms pollutant per cubic gram of sampled air.

* Not to be exceeded more than once per year.

** Not to be exceeded more than 18 times per year.

Source: Department records.

1990 National Clean Air Act Amendment

The 1990 Clean Air Act Amendment (CAAA) require states to develop an emissions source operating permit program (Title V) and a toxic pollutant permit program (Title III). AQD issues air quality permits to establish emission controls for pollution sources.

Title V Major Source Operating Permit Program

There are 88 permitted major sources which qualify under Title V rules, and an estimated additional 50 potential sources. Title V permit criteria is based on "potential" to emit rather than actual or historical emissions.

The type and amount of annual emissions determines whether a facility is federally classified as a major versus a minor source. For example, the emission rate which qualifies a source as major for carbon monoxide (CO) is 100 tons per year, while sources emitting lead are classified as major when emissions exceed 0.6 ton per year. Sources emitting less than these amounts are classified as minor.

Compared to the existing air quality permit program, Title V permit application review and issuance procedures will require more complex research and documentation. Title V permits must be reviewed every five years, and permit application or annual emission fees are required to pay for administration of the program.

Title V Rules Prepared

Prior to the 1993 legislative session, the department, with the help of an advisory council, prepared proposed Title V legislation. Division staff, with the assistance of the advisory council, prepared administrative rules to support the new legislation. The rules were adopted by the MBHES in November 1993. The rules, along with the state's plan for implementing the Title V operating permit program, were submitted for EPA's review in April 1994.

Title V Sources Identified

Federal policy requires permitting one third of the Title V sources within 30 days of EPA approval of Montana's rules. Approval may not occur until April 1995. Likely Title V sources in Montana were identified and assigned to staff. Staff are

Chapter II Background

assisting the first one-third Title V candidates with permit application preparation. Following permit issuance, Title V permittees will be required to submit compliance monitoring reports every six months.

Title III Toxic Pollutants

Title III involves permitting previously unregulated sources emitting any of 189 toxic pollutants identified in the 1990 CAAA. Division staff estimate as many as 2,600 small businesses (such as dry cleaners, paint shops, and engine parts cleaners) will be affected by the requirement. AQD staff expect to develop administrative rules and prepare a state plan for toxic pollutant permitting during the next two to three years. Division staff have begun to identify emission sources for toxic pollutants associated with dry cleaning facilities. EPA indicated this is the first category for which promulgated federal rules will be available. Permit application review, permit issuance, and compliance monitoring by the department will eventually be required for all 189 toxic pollutants as EPA establishes standards.

Annual Operation Fee Program

The 1991 Legislature established procedures for an annual air quality operation fee program. Annual operation fees are required for all permitted emission sources. Division staff prepared proposed rules, subsequently approved by the MBHES, for implementing the annual fee program. The board also approves the emission fee rates. The division initiated the annual fee program in calendar year 1992. Fees are based upon each source's previous year's annual emission inventory.

Local Air Pollution Control Programs

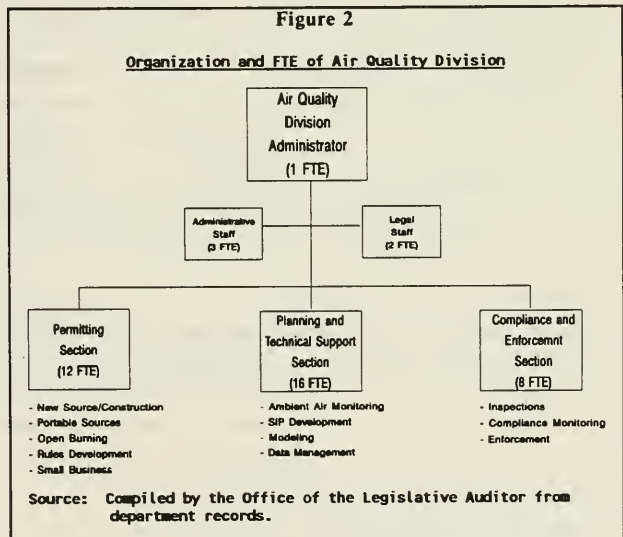
In accordance with legislation, the MBHES delegated limited authority to seven Montana counties to operate local air pollution control programs. Local air pollution control programs are established to support state air quality monitoring requirements, including limited permit issuance, ambient air monitoring, minor source inspection, and SIP-related air pollution control requirements.

Local programs can encompass an entire county although any or all local provisions can be confined to a portion of a county

where the air pollution problem exists. For example, Missoula County has an air pollution control program to limit particulate matter. However, wood burning restrictions, which help reduce particulate matter, are only applicable to a geographical area around and within Missoula city limits. Local programs can also be designed to control specific types of sources, such as residential wood stoves, automobiles, or small industrial sources. The MBHES has not delegated authority to counties to issue permits for major pollutant sources or to conduct major source enforcement activity.

Division Organization and FTE

Three sections in the Air Quality Division share responsibility for administering the Clean Air Act of Montana. The following chart shows the organization of the division and the FTE assigned to each function.



As a result of federal mandates, 14.5 FTE were added to AQD during the 1994-1995 biennium. During fiscal year 1993-94, the division filled 9 of the 14.5 positions. The remaining positions will be filled during fiscal year 1994-95. Of 42 authorized staff,

Chapter II Background

37 are assigned to the division in Helena, 2 are assigned to the department's office in Billings, 1 is assigned to the department's office in Polson, 1 is assigned to the Department of State Lands to monitor mining air quality requirements, and 1 is assigned to the Department of Commerce to address small business air quality issues.

Division Expenditures

Air quality program funding is from general, state special revenue, and federal special revenue funds. Collection of air quality permit and annual operation fees generates state special revenue funds. The following table shows division expenditures and Full-Time Equivalents (FTE) for the air quality program for fiscal years 1991-92 through 1993-94.

Table 2

Air Quality Division Expenditures and Revenues
(FY 1991-92 through 1993-94)

Expenditures and FTE

	Fiscal Year 1991-92	Fiscal Year 1992-93	Fiscal Year 1993-94
Personal Services	\$ 874,361	\$ 997,416	\$1,126,941
Operating	535,853	543,008	591,234
Equipment	76,170	81,234	126,741
Grants	189,541	191,100	229,110
Total	<u>\$1,675,925</u>	<u>\$1,812,758</u>	<u>\$2,074,026</u>

Revenue

	Fiscal Year 1991-92	Fiscal Year 1992-93	Fiscal Year 1993-94
General Fund	\$ 222,022	\$ 177,206	\$ 61,707
State Special Revenue	337,836	614,303	1,240,174
Federal Special Revenue	1,112,609	1,070,015	1,098,332
Total	<u>\$1,672,467</u>	<u>\$1,861,524</u>	<u>\$2,400,213</u>

Source: Department of Health and Environmental Sciences.

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Introduction

Ambient air is the portion of the atmosphere, external to buildings, to which the general public has access. Montana and National Ambient Air Quality Standards establish permissible levels of air contaminants in ambient air. Permissible levels are defined by a maximum frequency of occurrence. The standards are established to protect public health and safety.

Federal law mandates states and local governments adopt plans which provide for implementation, maintenance, and enforcement of National Ambient Air Quality Standards (NAAQS). Ambient air monitoring is the key factor in determining if Montana's air meets national and state pollutant standards.

Ambient Air Data is Used to Reduce Pollution Levels

The Air Quality Division (AQD) determines where ambient air monitoring is needed based on the location of pollutant emission sources, geography, and weather patterns. Public concern also influences identification of potential locations for ambient air monitoring. Specific monitoring site selection and pollutant measurement is based on:

1. Verifying expected highest pollutant concentrations,
2. Determining representative concentrations,
3. Determining significant sources of emissions, and
4. Establishing background levels of pollutants.

Following installation of monitoring equipment, the division collects and analyzes data. Ambient air data provides the basis for determining pollution levels, establishing pollution control strategies, and assessing compliance with air pollution control requirements.

If the data reflects an exceedance and the exceedance results in a violation of an ambient air standard, AQD notifies EPA the location needs to be classified as a nonattainment area. AQD and the local government and/or emission sources in the nonattainment area prepare a state implementation plan (SIP) to establish air pollution control strategies to return the area to attainment. We discuss the SIP development process in Chapter IV.

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Reaction to Standards Exceedance is Lengthy Process

Depending on the type of monitor used to measure air pollution, data collection and processing takes between 30 and 45 days. When notified of a violation of an ambient standard, EPA has 120 days to evaluate the information and request the division to establish area boundaries. Federal criteria allows another 120 days for the division response. Upon receipt of the division response, EPA has 240 days to formally designate the area as nonattainment for a standard. Although lengthy, nonattainment designation timing provides opportunities for involvement by the public, industry, and all levels of government.

While nonattainment designation can take up to 525 days following the date of the exceedance, division staff begin to develop control strategies earlier. Typically, staff increase monitoring frequency, the number of monitors, and/or prioritize existing data collection and review for the area of concern. These steps are initiated because staff recognize the need to begin collecting detailed monitoring data to develop SIP control strategies as early as possible.

Ambient Air Quality Assurance Program

The goal of AQD's ambient air quality assurance program is to control data collection thus assuring data completeness, precision, and accuracy. The division's data quality assurance program is designed to avoid inaccurate data generated by poor data transmission, keypunch errors, or equipment malfunctions.

The Montana Quality Assurance (QA) Manual includes criteria and procedures for ambient air monitoring site selection, sampling and data collection, data recording and validation, analysis and transmittal, equipment maintenance, repair, calibration, and precision and accuracy. The QA Manual is distributed to all ambient air monitoring site operators to standardize data collection procedures and assure data consistency.

Failure to comply with QA Manual criteria or federal regulations can partially or totally invalidate otherwise acceptable ambient air data. Deviation from QA Manual criteria can subsequently result in: a) a determination of a violation of a permit condition, b) an incomplete permit application, or c) a determination that

insufficient ambient air data is available to establish compliance with any ambient air standard or permit requirement. By statute, the department may pursue, administratively or judicially, violators of air quality rules.

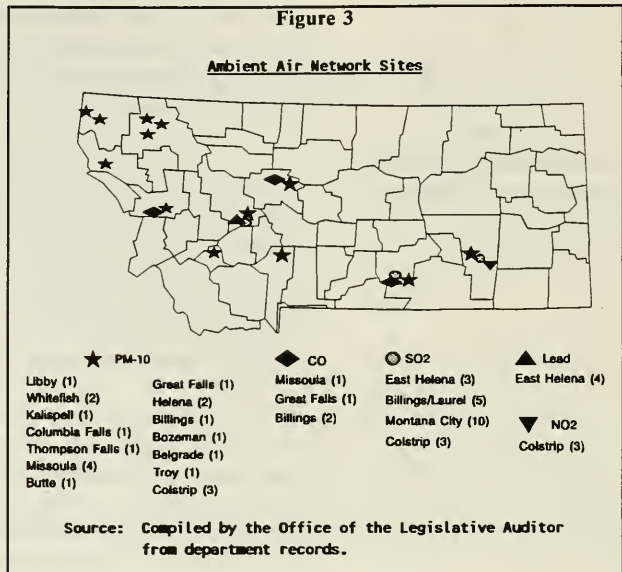
Ambient Air Monitoring Sites

Federal regulations require states to operate a network of state and local air monitoring stations to collect ambient air data for pollution control strategy development, ambient air assessment, and determination of compliance with NAAQS. Special purpose monitors (SPM) are also operated to assess the attainment of NAAQS/MAAQs in existing or potential state implementation plan (SIP) areas. SPMs are part of the Montana network.

AQD administers a network of 46 ambient air monitoring sites across the state. The sites are operated by a combination of state, county, and industry employees. Pollutants of primary concern in Montana include: particulate matter, sulfur dioxide (SO₂), carbon monoxide (CO), lead (Pb), and nitrogen oxides (NO_x). The following figure shows the location of all network sites.

Chapter III

Ambient Air Monitoring: Key to Montana's Air



Network Site Operations

The primary purpose of site operations is to collect ambient air data for review by division staff. County officials operate many network sites through local air pollution control contracts with the state. For some sites, the division hires operators as permanent part-time FTE employees. This allows the division the flexibility to hire staff for specific ambient air monitoring site requirements. Division staff operate a few Helena-area monitoring sites. Industry staff or a contracted air quality consultant also operate some network sites located adjacent to industrial sources.

Air Quality Permits may also Require Ambient Air Monitoring

In addition to the network, industrial sources operate ambient air monitors to meet air quality permit conditions. Companies also operate ambient air monitoring sites around their facilities for permit pre- and post-monitoring. Pre-monitoring to determine the impact of anticipated emissions on ambient air can be required prior to issuing a permit. Similarly, post-monitoring may be necessary to verify compliance with reclamation

Chapter III

Ambient Air Monitoring: Key to Montana's Air

requirements when industrial sources cease operations. These sites are not part of the network, but still require oversight by the AQD for compliance with state and federal operating procedures and quality assurance criteria.

Types of Monitoring Equipment Used

Two types of monitors are used to measure pollutants in ambient air. One continuously analyzes and records the amount of gaseous pollutants such as CO, NO_x, and SO₂, in the air. Typically, pollutant levels are recorded on both a mechanical strip chart and by an automatic digital recording system. The other monitor is a manual particulate sampler. Manual samplers use air flow across a filter to collect particulate pollutants in the air. Sampler filters are weighed to determine particulate levels. In addition to pollutants, many sites also monitor weather information such as wind speed and direction.

Equipment Maintenance

Minor site maintenance is usually an operator's responsibility. More complex maintenance involving removal and replacement of equipment components is typically an AQD responsibility. AQD or county staff (depending on available county expertise) perform routine equipment calibration to verify proper equipment operation. Most network and non-network companies use contract consultants for maintenance, repair, and calibration of ambient air equipment.

Data Collection, Review, and Validation

The following sections discuss the process used by AQD to collect, review, and validate data from network as well as company-operated equipment.

Data Collection

For gaseous pollutants, data acquisition systems (DAS) are used to automatically record continuous monitor data. Data reflecting the amount of CO, NO_x, and SO₂ in the air is recorded on a diskette. Hand-coded forms can be used in lieu of operating a DAS. The data is interpreted from a mechanically-recorded strip chart. Continuous monitor systems typically record pollutant levels every hour (hourly average) during a 24-hour

Chapter III

Ambient Air Monitoring: Key to Montana's Air

period, but may record five minute averages as well. Field operators submit continuous monitor data bi-weekly to the AQD.

To reflect system anomalies, such as downtime for repair, maintenance, or calibration which affect data validity, site operators prepare and submit data clarification log sheets with DAS reports (diskettes) to the AQD. Operators hand-mark strip charts to reflect downtime for repair, maintenance, or calibrations documented on the log sheets.

For manual samplers, the department's chemical laboratory serially numbers and weighs manual sampler filters prior to distribution to site operators. Manual sampling frequencies range from every other day to every six days and may vary quarter to quarter because of seasonal weather differences. As a result, quarterly data may consist of 15, 30, or 45 air sample values (filter particulate weights).

Samplers are usually operated for 24 hours. Site operators remove and return filters to AQD for weighing and analysis. The filter is weighed for particulate matter and/or analyzed for heavy metals (lead, copper, zinc, etc). Hand-coded forms are used to record pollutant levels after the filter is weighed and analyzed.

Data Review and Validation Procedures

Division staff accumulate and transfer continuous monitor and manual sampler data to a computer file on the state's mainframe computer. Data Management Unit staff prepare a document called the "minimaster" from the computer file and conduct an initial review for proper format and completeness of data. Ambient Air Monitoring Unit staff then review the minimaster for obvious disparities such as extremely high or low pollutant levels. Next, the minimaster is forwarded to site operators, who review the data to explain disparities, usually by indicating downtime for power outages, lack of a filter change, or extreme weather conditions. For continuous monitors, site operators also use a continuous data audit form to compare random data points from strip charts to minimaster data (which was recorded by a DAS) to verify consistency between the two recording systems.

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Following the return of minimasters, which include an explanation of anomalies, staff again review the minimaster to validate explanations. Following final validation, division staff enter the ambient air data information into the EPA's Aerometric Information and Retrieval System (AIRS). This computer system is accessible to users nation-wide and reflects Montana's status of compliance with NAAQS.

Company-Operated Site Procedures

Companies operating continuous monitors and/or manual samplers submit data quarterly. AQD prepares quarterly minimasters for staff and company review and validation. Companies acknowledge minimaster review and ambient air data quality by forwarding either a quality verification letter or an annotated minimaster to AQD.

Establishing Confidence In Data

The division establishes confidence in data collected by air monitors and samplers by measuring precision and accuracy of monitors and samplers.

For continuous monitors, site operators calculate and summarize precision on control charts. Operators and division staff use the charts to help decide data validity, determine proper equipment function, and support operating and maintenance decisions. AQD established control chart warning and control limits for each measured pollutant to assess and track the precision of continuous monitor equipment.

Manual sampler precision is verified by comparing data from side-by-side collocated samplers. EPA policy establishes criteria for the number of collocated sites in state networks. Montana has a one-for-six sampler requirement. The state currently operates collocated manual sampler sites in Butte, Missoula, Libby, and East Helena.

Continuous monitor and manual sampler accuracy is established when division staff audit site equipment. Accuracy for continuous monitors is determined by challenging the monitor with audit gases (CO, NO_x, or SO₂) of known concentrations to compare to the readings on the monitor. Manual sampler

Chapter III

Ambient Air Monitoring: Key to Montana's Air

accuracy is determined by measuring the air flow rate through the sampler using a certified flow rate instrument. Quality assurance regulations require verification of accuracy annually.

Division staff prepare a quarterly report which documents precision and accuracy for sites examined during the quarter. The report information is submitted to EPA and also tracked by the federal computer Precision and Accuracy Reporting System.

Audits Determine Data Quality

By using a combination of performance site and system audits as checks, division staff can determine the quality of the operation of ambient air monitoring sites. Performance audits are similar to precision checks. Both compare known or audit-calibrated gas concentrations and/or air flows to expected concentrations or calculated air flows. Division staff, rather than site operators, conduct performance audits using equipment certified through the National Bureau of Standards. In effect, the performance audit is an accuracy check of on-going precision.

System audits trace data collection from initial measurement to submission and review by site operators. Additionally, system audits evaluate facility location, site/monitor set-up, and equipment condition.

Effectiveness of Division Monitoring Procedures

We compared site file documentation to QA Manual timing criteria for data receipt, review, and processing. In addition, we compared QA Manual criteria to documentation maintained by the division to verify an adequate quality assurance program for each site. We evaluated data for three categories of sites:

1. Network continuous monitors (CO, NO₂, and SO₂),
2. Network manual samplers (PM-10 and TSP), and
3. Company-operated sites (continuous and manual).

The following sections discuss our findings.

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Conclusion: Division Meets Data Completeness Goal

AQD adopted the EPA goal of 75 percent for data completeness for ambient air monitoring sites. The net data completeness rate is determined by comparing the number of possible ambient air pollutant values to the number of valid ambient air values for each monitoring site. Completeness is defined as a minimum amount of valid data acceptable for determining ambient air status. We examined file data for a sample of 48 network and company sites (79 calendar quarters) for completeness. We found completeness of less than 75 percent twice. In both cases, staff had appropriately documented data recording problems. We determined the division consistently meets its completeness goal for all monitoring sites.

Conclusion: Network Continuous Monitor Process is Effective

We sampled 12 network sites and reviewed 90 days of hourly average readings at each site (approximately 25,000 values). Continuous monitor data was collected, reviewed, and validated within the 30 days allowed by the QA Manual. We determined network continuous monitor site data receipt is timely and the review assures data reliability. By examining quality assurance documentation for these sites, we determined the division's procedures for verifying and documenting quality assurance precision, accuracy, and calibration are effective.

Procedures for Data from Network Manual Samplers Could be Improved

We examined a sample of approximately 950 manual sampler particulate filters (PM-10 and TSP) and related file documentation collected from July 1992 through June 1993 for 24 network sites. In conjunction, we evaluated quality assurance documentation. We determined the division's procedures for assessing and documenting network manual sampler site accuracy are effective. We identified shortfalls relating to timeliness of data processing, and documentation of precision and calibration.

Timeliness of Processing Manual Sampler Filters and Data

The QA Manual identifies specific timing (number of days) for each step in the data collection, review, and validation process. Total allowable time from sampler operation to validation is 45 days. We found late receipt of filters from manual sampler site operators over 200 of 950 times. Based on filter receipt dates, it appears, for convenience, site operators accumulate filters and

Chapter III

Ambient Air Monitoring: Key to Montana's Air

mail several to the division at one time. Delays also occur following division receipt because filters accumulate until staff are available to inspect each filter's condition to determine the appropriateness for laboratory weighing and analyses. We noted delays over 200 of 950 times for metals analysis in the department's chemical laboratory. Metals analysis appears to compete for equipment priority with other department workloads.

The combined effect of these delays was over 700 of the 950 sampled filter files did not meet QA Manual processing criteria of 45 days. The majority of the delays were from one to three weeks, but exceptions covered four to six weeks (metals analysis delays - 14 to 90 days). During our sample review, we did not identify an exceedance of an air quality standard.

Untimely processing delays the determination of ambient air quality by department staff responsible for assuring compliance with standards, although as noted earlier, federal reaction to an exceedance can take almost 500 days. Additionally, late processing delays availability of Montana's ambient air status to nationwide data users who may be developing their own air pollution control strategies. Processing delays also impact division operations, because staff use ambient air data during air quality permit application review to establish emission limits and state implementation plan (SIP) development to decide control strategies.

The division should re-examine criteria in the QA Manual for manual sample filters and data processing to verify if realistic time frames are identified. Additionally, the department should evaluate workload priorities which impact the laboratory analysis to determine if alternatives such as contracting with a private firm for analysis would be appropriate.

In response to our interim recommendation, the department acknowledged delays in processing network manual sampler data. The department indicated a reluctance to revise existing time lines for processing manual sampler filters and data and noted a preference for realignment of staff resources to assure timely processing in accordance with existing criteria. AQD revised its standard county contract for fiscal year 1994-95 to include

Chapter III

Ambient Air Monitoring: Key to Montana's Air

criteria for timely submission of filters and review of minimasters by site operators.

Recommendation #1

We recommend Air Quality Division:

- A. Examine procedures for processing network manual sampler ambient air filters.**
- B. Evaluate availability of staff and equipment resources to ensure timely submission and review.**

Precision and Calibration Documentation is not Complete

We examined a sample of precision files for the four network collocated manual sampler sites requiring quarterly precision documentation. We could not locate documentation for one site for three of four calendar quarters examined. We also sampled files of 24 sites for the availability of calibration documentation for July 1992 through June 1993. We did not find documentation of required calibration for three sites.

Without documentation of site precision and calibration, data traceability is incomplete. According to section 16.8.807, ARM, invalid data can lead to insufficient ambient air data to determine compliance with ambient air quality standards. The division needs procedures to verify and track network manual sampler site precision and calibration documentation. Currently, staff rely on documentation in several different files and specific tracking to verify receipt of required documentation is not conducted consistently.

The department intends to develop a tracking system to assure compliance with network manual sampler precision and calibration criteria.

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Recommendation #2

We recommend Air Quality Division establish a system to verify and track accomplishment of precision and calibration for network manual samplers.

Company-Operated Monitors and Samplers

Company site operators are required to provide ambient air data to AQD on a quarterly basis. The QA Manual allows 45 days following the calendar quarter for submission of data to the AQD. In addition to ambient data, company documentation to substantiate a quality assurance program (precision, accuracy, and calibration) is to be provided on a quarterly basis. Company quarterly ambient air data and associated quarterly quality assurance reports should be reviewed by staff concurrently, since the purpose of the reports is to substantiate quality of submitted data.

Timeliness and Control of Company Information Could be Improved

To confirm compliance with QA Manual criteria for company ambient air data, we examined a sample of 18 company files (44 minimaster reports) and identified several timing-related processing concerns. We found submission of ambient air data by company operators was 2 to 6 weeks late 12 of 44 times.

We also examined receipt and control of company quarterly quality assurance reports. We could not locate 6 of the 44 quarterly reports sampled. Based on our review of reports for required content, we also determined eight reports from four different companies did not contain all report requirements since calibration, precision, or accuracy information was missing.

We also noted 23 of 44 company quality assurance quarterly reports did not reflect a timely review by ambient air monitoring staff. We noted quarterly report review delays in excess of seven months. Staff informally prioritize company-operated sites based on the history of compliance with air quality requirements and review the highest risk sites upon receipt.

Untimely company-related ambient air data processing and quarterly report information review delays a department determination of compliance with standards and could result in not enough validated data to substantiate compliance. Potentially, delays also impact enforcement case decisions since many company reporting requirements are mandatory air quality permit conditions. Late review of quality assurance reports could result in a determination of invalid data weeks after the data has been processed, reviewed, and input to the EPA data base.

The division does not have controls in place to assure timely submission by companies and staff review of company-submitted ambient air data and quarterly reports.

Department staff stated they intend to develop report receipt and review tracking procedures. The department also agreed with the need for timely review of company ambient air data and quality assurance reports.

Recommendation #3

We recommend Air Quality Division establish controls and a tracking system for company-operated site ambient air data and quality assurance reports.

Number of Site Performance Audits not Sufficient

According to the QA Manual, the purpose of performance audits of ambient air monitoring sites is to locate problems which could affect the quality of collected ambient air data.

Documentation of non-network company-operated site accuracy, recorded through performance audits, is required quarterly by federal regulation. Typically, companies use their own staff or contract with consultants to conduct site performance audits to document accuracy. AQD relies on staff review of quarterly quality assurance reports to evaluate compliance with QA

Chapter III

Ambient Air Monitoring: Key to Montana's Air

Manual criteria, including accuracy. The division also attempts to audit non-network company sites once each year to verify accuracy, rather than rely totally on company audit information. In addition, the division attempts to audit some network company-operated sites quarterly, because of SIP or major pollutant emissions activity.

Initially, we reviewed AQD-conducted non-network company site audits by sampling two consecutive quarters of Precision and Accuracy System (PARS) data. PARS indicated AQD conducted two performance audits of the 32 companies sampled. Since only two audits were documented for these two quarters, we expanded our sample selection to consider audit coverage over calendar years 1992 and 1993. We found AQD staff audited 14 of 17 companies at least once during calendar year 1992 and/or 1993.

We noted some company-operated network and non-network sites do not receive audits because AQD does not have the equipment necessary for company-peculiar monitoring instruments. We determined one network company-operated site had not been audited in several years by AQD because of division equipment limitations.

Audit Limitations Impact Data Confidence

We observed staff conduct company performance audits on 12 different monitors and samplers at 4 company sites. One company audit we observed included a continuous monitor and three manual samplers. The AQD audit revealed significant equipment problems. Without the performance audit, AQD would not have questioned the validity of this company's ambient air data.

We recognize there is a workload increase if all companies receive quarterly performance audits. Without routine AQD-conducted performance audits of company-operated sites, however, confidence in ambient air data validity has to be a concern for the department. Since most company monitoring requirements are enforceable through permit requirements, performance audits are also an important compliance monitoring tool. Division staff are already aware some companies require

closer scrutiny than others and audit those companies more often. We believe AQD could increase audit effectiveness by formalizing their identification of higher risk companies to help prioritize performance audit workload. High risk companies would receive more frequent audits. For lower risk companies, staff could rely on company audit documentation, but this would necessitate procedures which assure receipt and proper content of company audit reports.

The department acknowledged the importance of audit information to substantiate company-operated site quality assurance. Realignment of division resources utilizing 1994-95 biennium resources should allow for more performance audits.

Recommendation #4

We recommend Air Quality Division establish risk categories for company-operated sites to prioritize performance audit workload.

***Assessment of Ambient Air
Audit Objective***

Our audit objective for ambient air monitoring was based on the following question:

Do division procedures provide accurate, timely and reliable ambient air monitoring data? The division meets its data completeness goal of 75 percent for network and company-operated monitoring sites. Despite receipt and review delays, data reliability for Montana's ambient air sites is maintained. Inconsistencies exist between network continuous monitor, manual sampler, and company-operated site quality assurance programs. Performance audit limitations reduce quality assurance confidence for some sites.

During our audit, two staff were responsible for the majority of the ambient air monitoring workload addressed in this chapter. A third provided necessary site facility and equipment setup,

Chapter III

Ambient Air Monitoring: Key to Montana's Air

equipment maintenance, calibration, and field operator training for network sites. The section supervisor established workload priorities which allows the section to adequately meet air monitoring objectives. In order to more effectively provide accurate, timely, and reliable ambient air monitoring data, the division should establish workload priorities which take advantage of additional FTE to accomplish more site audits.

Chapter IV

State Implementation Plans

Introduction

The 1990 Clean Air Act Amendment (CAAA) require Montana to make constant, substantial progress in reducing emissions to improve Montana's air quality. The ambient air data review process discussed in the previous chapter provides information to the Planning and Technical Support Section, Air Quality Division, concerning the quality of Montana's air. If the ambient air data shows a violation of National Ambient Air Quality Standards (NAAQS) in a geographic area, section staff must develop a plan to reduce emissions. This chapter discusses development of the overall state plan to reduce emissions and individual plans pertaining to specific geographic areas.

Implementation Plans

In addition to industrial sources, other types of emissions in Montana which may need to be controlled include road dust and smoke from wood stoves and open burning. Weather inversions and mountain ranges also impact Montana's air quality. All these factors must be considered by AQD when developing Montana's air pollution control program. The Montana State Implementation Plan (SIP), prepared by Air Quality Division (AQD) and approved by the Montana Board of Health and Environmental Sciences (MBHES) and the Environmental Protection Agency (EPA), describes the state's overall air pollution control program and strategies. SIP documents specify how Montana will achieve and maintain compliance with NAAQS for pollutants. Montana has an overall SIP and area and point source SIPs.

Overall State Implementation Plan

The overall SIP incorporates state laws and Administrative Rules of Montana pertaining to the air quality program, area and point source SIPs, ambient air surveillance procedures, and other documents pertaining to the state's overall air quality program.

Area State Implementation Plans

Area SIPs are required when a geographic area in the state, usually a county and/or city, violated a NAAQS and has many sources of the pollutant. Some pollutant sources can be generalized such as wood smoke from residential wood burning or open burning, and road dust. Industrial sources, such as idling diesel

Chapter IV

State Implementation Plans

engines or dust from haul roads, can also contribute to the violation. Area SIPs present detailed strategies for achieving and maintaining compliance with NAAQS.

Point Source State Implementation Plans

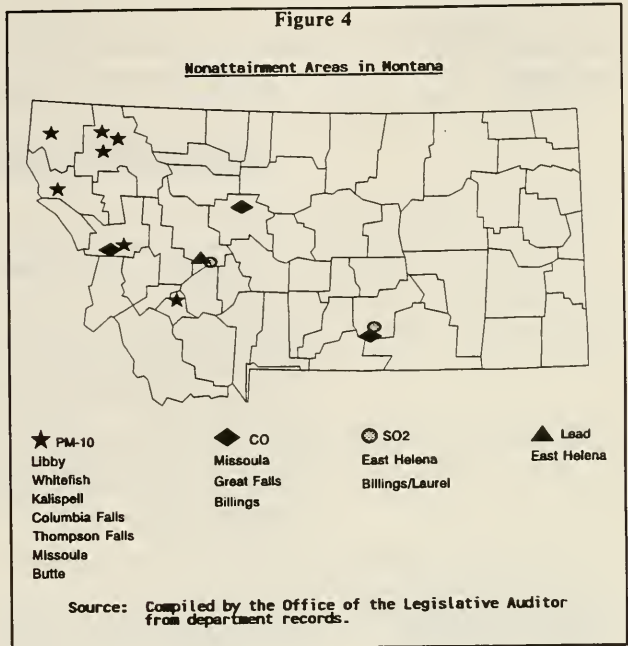
Point source SIPs are required when industrial source(s) cause a geographic area to violate NAAQS for various pollutants (CO, NO_x, SO₂), or the sources could cause a potential NAAQS violation (SIP call). Point source SIPs present strategies for industrial source(s) to reduce emissions so the geographic area is in compliance with NAAQS.

Areas Designated As Nonattainment

EPA designates areas in noncompliance with NAAQS as nonattainment. As a result of the 1990 CAAA, five areas in Montana were designated nonattainment for PM-10, one for sulphur dioxide (SO₂), and one for lead. In 1993, EPA designated two additional areas in Montana as nonattainment for PM-10 for violating NAAQS. The sites were identified through the state's ambient air monitoring system. The three CO areas were designated non-attainment prior to 1990.

The following map shows the nonattainment areas in Montana.

Figure 4



SIP Calls

In 1993, EPA issued a "SIP call" for the Billings/Laurel area. In this case, computer modeling of 1990 emission inventories, conducted privately by an industrial facility to obtain a permit for a new emission source, indicated the probability of a violation of NAAQS for SO₂. Although NAAQS had not been violated at that time, there was a potential for a violation under the SIP then in place. EPA indicated the existing Billings/Laurel area SIP needed major revisions to ensure emissions from a variety of industrial sources would not violate NAAQS in the future.

Chapter IV

State Implementation Plans

SIP Development Procedures

The basic approach to writing a SIP is to:

- Inventory the sources contributing to the problem.
- Develop a strategy to reduce emissions from contributing sources enough to bring about attainment of NAAQS.
- Implement the strategy.
- Take steps necessary to ensure NAAQS are not violated in the future.

SIP preparation procedures vary depending upon the source or sources of pollution. If multiple sources require an area SIP, local government involvement is encouraged since local regulations/ordinances can usually control emission sources. Usually, point source(s) SIPs (such as for lead and SO₂) involve only the industrial source(s) emitting the pollutants of concern. The following sections describe AQD procedures for writing area and point source SIPs.

Procedures for Writing Area Source SIPs

When AQD determines a geographic area violated a NAAQS (usually PM-10), division staff contact the city council, county commissioners and the city-county health department in the area. If a local air pollution control program does not exist, the division encourages local agencies to establish one. Local pollution control programs are the vehicle used to enforce local regulations/ordinances created to control air pollution.

AQD also establishes procedures to identify pollutant sources and their relative contributions to the violation. Staff examine emission inventories to identify pollutant sources, determine pollutant concentrations, and the amount each source is emitting. This information is gathered primarily from ambient air monitors and is usually collected for a one year time period to provide sufficient data for computer modeling.

Control Strategies Developed

Computer modeling identifies the sources and their relative contribution to the pollution. Based upon the relative contribution to the problems, staff determine the amount each source can be allowed to emit. Staff then determine what types of control

strategies are needed to limit the pollutant emissions for each source in the area. For example, one control strategy for road dust involves changing the type of sand used in the winter to increase traction on icy roads. A control strategy for wood smoke allows residential wood burning only on days with suitable weather (no inversions).

If an industrial source contributes to the pollution, the division discusses control strategies with industry officials. If control measures do not include new construction or modifications, which would require the rewriting of a permit, the measures are included in an agreement entered into by the department and the source. The agreement provides for department enforcement of the control measures.

Implementation of control strategies should reduce total emissions from area sources to ensure attainment and maintenance of NAAQS.

Enforcement of Control Strategies Determined

Local agencies are responsible for developing and enforcing control strategies needed for such things as road dust and wood smoke. The strategies become local government regulations or ordinances after approval by the city council(s) and the county commission.

After regulations/ordinances are approved at the local level, the city-county health department petitions the MBHES for delegation of authority to administer an air pollution control program and enforce local control measures. MBHES approves or disapproves delegation of authority. If delegation is not approved the state retains responsibility for enforcing the control measures.

Division staff ensure local enforcement by reviewing air pollution control reports submitted by counties participating in local programs. If enforcement procedures are not followed, the division can decrease state and federal funding provided to counties to support approved local programs.

Chapter IV

State Implementation Plans

For major industrial sources within the SIP area, AQD enforces permit or control provisions through its compliance and enforcement programs (discussed in Chapters VI and VII).

SIP Documentation Submitted to EPA

SIP submittals to the EPA typically include local ordinances/regulations, record of adoption of local ordinances/regulations by the local government, certified transcript of the MBHES approval hearing, public comments from the MBHES hearing, and industry control provisions (if needed). The CAAA also requires SIPs submittals to:

1. Include a program for enforcement of emission limitations and control measures.
2. Provide assurance the designated control authority has adequate resources and power to carry out the SIP under state or local laws.
3. Require monitoring and periodic reporting of emissions by industry.
4. Provide for air quality modeling and related data submission to predict the effect of emission of any regulated pollutant on ambient air quality.

SIP Decisions Published for Public Comment

EPA has 60 days after receipt to determine if the SIP contains all the information needed for review. If the SIP is not complete, the division is notified of needed changes/documents. After deeming the document complete, EPA has 12 months to take final action to approve or disapprove the SIP. EPA reviews the SIP and decides to propose approval, partial approval, conditional approval, limited approval, or disapproval. The proposed decision is published in the Federal Register. After considering any public comments resulting from the proposal, EPA publishes its final decision in the Federal Register. Until EPA approves the SIP, enforceability is based on existing state air quality law. SIP approval provides the federal government with the ability to enforce SIP provisions.

**Procedures for Writing
Point Source SIPs**

If the pollution source is an industrial facility rather than multiple area sources, division staff coordinate with the point source owner/operator to review industrial operating processes and determine options for emission reduction. Ambient air and meteorological data is gathered to determine the amount of pollutant emitted from the source and the direction and distance the pollutant moves from the source. Computer modeling is completed to predict pollutant concentrations at various locations in the area. Based upon modeling results, AQD and industry staff discuss control strategies needed to reduce the level of pollutant to meet and maintain NAAQS.

If new construction or modifications are necessary to install air pollution control equipment, the source's air quality permit is re-written. Air pollution control measures and/or operating process limitations are included in an agreement which must be reviewed and approved by the MBHES. If control measures do not require construction or modifications a permit revision is not required and the agreement discusses control measures. The MBHES approved SIP is then sent to EPA for approval following the same procedures as described above for area source SIPs.

***Conclusion: SIP Preparation
Process is Responsive***

We determined the SIP preparation process is responsive to state and federal/EPA air quality requirements. Since passage of the CAAA, the division has submitted five PM-10 SIPs and EPA approved four. The fifth SIP sent to EPA needed some minor additions which were completed during the June 1994 MBHES hearing. There have not been any violations in the PM-10 NAAQS in the five areas, indicating the control measures adopted are effective. The primary SO₂ SIP submitted for East Helena was deemed complete by EPA.

Contingency Measures

AQD is also required to submit contingency measures for SIPs. Contingency measures describe air pollution control steps which will be implemented if reasonable progress or NAAQS are not attained in the area by attainment dates specified in the SIP. Contingency measures are automatically implemented, if needed, after the projected attainment date. Examples of contingency

Chapter IV

State Implementation Plans

measures include using a liquid de-icer in the winter instead of sanding roads, or mandatory curtailment of wood burning instead of voluntary curtailment.

Attainment

Division staff review ambient air data for NAAQS violations to determine if the area is in attainment. For PM-10, for example, NAAQS allow one exceedance of the 24-hour standard each year over a three-year period. If there are four exceedances, attainment is not achieved and contingency measures are implemented.

For a nonattainment area to be designated as attainment, ambient air monitoring data must reflect compliance with NAAQS for three years, dispersion modeling must show compliance everywhere in the area, control measures must be in place and enforceable, and a maintenance plan for the next ten years must be submitted to and approved by EPA. If NAAQS are violated during the ten years covered by the maintenance plan, EPA requires a SIP rewrite since the plan proved to be inadequate for maintaining attainment.

EPA can Impose Sanctions

EPA can impose sanctions if the state fails to submit a SIP on time, the SIP is deemed incomplete, or EPA disapproves the SIP. Sanctions consist of federal highway funding restrictions, air pollution grant reductions, and more stringent offsets for emissions resulting from proposed new sources or modifications to existing sources. If a two to one offset is required, for example, a source proposing to build a new facility emitting 100 tons of SO₂ each year in a nonattainment area for SO₂ would have to find other sources in the area which could reduce their SO₂ emissions by at least 200 tons each year.

The sanction clock starts with EPA's issuance of a finding of failure to submit letter. Eighteen months after the finding letter EPA must impose either offsets or highway funding reductions. The sanction clock stops when the state corrects the problem which caused the clock to start.

**Lack of a SIP can Lead to
Federal Control**

Two years after the required SIP submittal date either an approved SIP or federal implementation plan (FIP) must be in place. A FIP is an implementation plan written by EPA. The state is forced to accept the FIP and implement the control measures contained in the FIP. FIPs are usually not as comprehensive as SIPs and do not have to incorporate more stringent control measures unique to state requirements. The FIP clock starts at the same time as the sanction clock and lasts six months longer.

Status of SIPs

During our audit of the Air Quality Division, we reviewed the status of each of Montana's required SIPs. The following table shows information concerning SIP timing requirements for submittal, sanctions, FIPs, and control measure development.

Table 3

SIP Timing Requirements

Reg/ Type of Pollutant	Required Submission Date	Submitted to EPA Date	Sanctions Imposed?	RIP Needed?	Status as of September 1996	Control Measures Implemented	Attainment Date
PM ₁₀ & PM _{2.5}	11-15-91	7 months late	NO	NO	Approved	City and county regulations to control: Residential wood burning Open burning Fugitive dust Industrial sources Permit modifications for two industry sources	12-31-96
SO ₂ & SO ₄	11-15-91	10 days late	NO	NO		City and county regulations to control: Residential wood burning Open burning Fugitive dust Revised emission limits for 12 industry sources	12-31-96
SO ₂ & SO ₄ & PM ₁₀	5-15-92	1 year, 10 1/2 months late	NO	NO	Delayed compliance	Process and production controls Continuous emission monitors	11-15-95
SO ₂ & SO ₄	11-15-93 7-9-95		** **	** **		Hardware controls Work practice controls	1-9-96
SO ₂ & SO ₄ & PM ₁₀	11-15-91	8 months late	NO	NO	Approved	City and county regulations to control: Residential wood burning Idling diesel vehicles and locomotives Fugitive dust Permit modifications for two industry sources	12-31-96
SO ₂ & PM ₁₀	11-15-91	10 days late	NO	NO	Approved	City and county regulations to control: Residential wood burning Open burning Fugitive dust	12-31-96
SO ₂ & PM ₁₀ & PM _{2.5}	11-15-91	9 months late	NO	NO	Approved	City and county regulations to control: Residential wood burning Open burning Fugitive dust Permit modifications for one industry source	12-31-96
SO ₂ & PM ₁₀	5-18-95		NA	NA			11-18-95
SO ₂ & PM ₁₀	7-20-95		NA	NA			1-20-2000
SO ₂ & PM ₁₀	9-9-96		**	**			1-4-98

* The time periods for the clocks has not been reached or sanctions have not been imposed or a RIP written

** The SIP is not yet due so the sanction and RIP clocks have not yet started

Source: Compiled by the Office of the Legislative Auditor from department records

Chapter IV State Implementation Plans

We also reviewed timing and submission of contingency measures for each of Montana's required SIPs. Table 4 shows timing requirements of contingency measures.

Table 4

SIP Contingency Measure Timing Requirements

Area/Type of Pollutant	Required submission Date	Submitted to EPA	Sanctions Imposed?	FIP Needed?	Status as of September 1994
Missoula PM-10	11-15-93	3 1/2 months late	no	no	Pending
Kalispell PM-10	11-15-93	Projected for November 1994			
East Helena SO ₂ - P	NOTE 1				
SO ₂ - S	NOTE 1				
Lead	NOTE 1				
Butte-Silver Bow PM-10	11-15-93	7 1/2 months late			
Libby PM-10	11-15-93	Projected for November 1994			
Whitefish PM-10	NOTE 1				
Columbia Falls PM-10	11-15-93	7 1/2 months late			
Thompson Falls PM-10	NOTE 1				
Billings/Laurel SO ₂	NOTE 1				

NOTE 1 - AQD plans to submit the contingency measures for these SIPs with the SIP document.

Source: Compiled by the Office of the Legislative Auditor from department records.

Chapter IV

State Implementation Plans

SIP Status Summary

Two of the 11 SIPs (Kalispell PM-10 and Libby PM-10) were submitted timely to EPA. Three others (Missoula PM-10, Butte-Silver Bow PM-10, and Columbia Falls PM-10) were delayed because industry emission sources in the nonattainment area appealed required permit modifications to the MBHES. The problems were resolved prior to a MBHES hearing, but SIP submittal was delayed six to eight months. The other three SIPs (Primary and Secondary SO₂ NAAQS and lead) pertain to East Helena. Initially, industry officials did not believe a modified SIP was required for SO₂. It took approximately a year to resolve the issue. In March 1994, control conditions for the Primary SO₂ SIP were approved by the MBHES and subsequently sent to EPA. The industrial facility wanted substantially more ambient air monitoring to determine if extensive air pollution control equipment was needed for the Secondary SO₂ SIP. This delayed the Secondary SO₂ SIP 18 months. The lead SIP is also in the process of being completed.

Missoula PM-10 contingency measures were four months late. The division submitted the Butte-Silver Bow and Columbia Falls contingency measures to the MBHES in May 1994. The division needed to complete some dispersion modeling for the Kalispell contingency measures. A department hearing is planned for November 1994 (a MBHES hearing is not needed since only modeling was required). The division is planning to submit the Libby contingency measures to the November MBHES hearing. Contingency measures for East Helena primary and secondary SO₂ and lead, Whitefish PM-10, Thompson Falls PM-10, and Billings/Laurel SO₂ SIPs are to be submitted with the SIPs.

Assessment of State Implementation Plans Audit Objective

Our audit objective for statewide implementation plans was based on the following question:

Do division procedures result in timely and federally acceptable state implementation plans? Throughout the SIP process the division works with EPA to ensure consistent interpretation of federal criteria for modeling, air pollution control technology, and controls development. AQD staff and EPA officials from Denver also meet quarterly to discuss division progress on

meeting SIP deadlines. Although the AQD has not met all the initial submittal dates set by EPA for SIPs and contingency measures, the division submitted the necessary information before sanctions were imposed or a FIP was needed. Based upon EPA criteria the six SIPs submitted as of September 1994 were timely.

The purpose of SIPs is to reduce the amount of pollutant in an area so NAAQS are not violated. In the six areas with SIPs, NAAQS have not been violated since implementation of the control measures.

Chapter V

Air Quality Permits

Introduction

Air quality permits are used to control emissions of pollution sources. In the two previous chapters, we discussed ambient air monitoring and state implementation plans (SIP); both influence air quality permit requirements. Ambient air monitoring data helps the Air Quality Division (AQD) determine the need for air pollution controls for emission sources and air quality permits are used to establish these controls. When SIP control strategies identify emission sources for air pollution control, permits may be used to implement the strategy.

Permit application review and permit issuance involves technical review of state and federal air quality regulations, consideration of emissions estimates and control options, evaluation of monitoring and testing data, analysis of ambient air impacts, and public comment.

Permitting Criteria

AQD's Permitting Section administers the state's air quality permit and fee programs. Section 75-2-211, MCA, directs the department to establish administrative rules for issuing and modifying air quality permits. Section 75-2-220, MCA, authorizes the department to collect fees to cover reasonable permitting program administration costs.

Administrative rules require most emission sources to apply for air quality permits prior to construction, alteration, installation, or use of any air contaminant source or stack. Permits are required for all sources or stacks with the potential to emit more than 25 tons per year of identified pollutants. Lead has a five ton limit. Asphalt/concrete plants and gravel crushers emitting more than five tons per year of any pollutant require air quality permits as well.

Pollutants of Concern

In Montana, nine primary pollutants are evaluated during the air quality permit application review process. The pollutants are: sulfur dioxide (SO₂), particulate matter, carbon monoxide (CO), ozone, volatile organic compounds (VOC), nitrogen oxides (NO_x), fluoride, lead, and hydrogen sulfide. Staff also consider

Chapter V

Air Quality Permits

air visibility reductions due to amounts of particulate, aerosols, and gases in the atmosphere.

Local Air Pollution Control Permits

In addition to AQD permitting, state statute encourages local air pollution control programs to permit some sources. Permitting activity is an option for local programs. During the audit, three of the seven Montana counties involved in local programs issued new source or construction permits and portable source permits. The state-county contract identifies minor emission sources under county control for air quality permits. The division retains responsibility for major sources in these counties. We discuss county contracts in more detail in Chapter VIII.

Permitting Activity

Historically, AQD annually processes approximately 75 new source or construction air quality permits. About 50 permit applications are for complex industrial construction and 20 are for non-stationary asphalt plants and/or gravel crusher operations. Staff expect three to four permits each year to involve federal prevention of significant deterioration (PSD) rules. These permits are more complicated and generate the most workload for a single new source or construction permit application. Staff estimate it takes 225 hours to review each PSD permit. Historically, the Permitting Section also processes over 100 burning permits each year.

Federal Mandates will Increase Permitting Workload

Recent federal mandates have an impact on permitting workload. The 1990 Clean Air Act Amendment (CAAA) expanded new source permitting requirements to include hazardous air pollutants which will increase overall permit review and processing time. The CAAA requires the establishment of maximum achievable control technologies (MACT) for sources emitting hazardous pollutants. The division must incorporate MACT into permits for those sources. Title III, air toxics, and Title V, major source operating permits discussed in Chapter II, will also increase permitting workload.

**Air Quality Permit
Application Fee**

The new source/construction permit program is funded through collection of permit application fees. Application fees are based on ton per year pollutant emission rates identified in the Administrative Rules of Montana. Fees paid by emission sources vary by type of pollutant. For example, the fiscal year 1994-95 rate for particulate matter is \$8.55 a ton per year and the rate for NOx is \$2.14 a ton per year. The minimum application fee is \$250, or \$1,000 if the source is classified under PSD rules and is located within a nonattainment area.

**Permit Fee Calculation
Verified**

Fee calculations are based on emission estimates. Emission estimates are determined by the applicant and verified by division staff. Staff evaluate applicant-provided emission projections. Staff also review the applicant's facility engineering information and manufacturer's equipment specifications to determine if the selection of EPA-approved emission factors used in the calculations to make the estimates were appropriate.

*Conclusion: Permit Fee
Charges Consistently
Reviewed and Assessed*

Our file review indicated staff consistently assess an applicant's emission data collected to make emission estimates, and review fee charges for compliance with permit application fee rate schedule requirements.

**Air Quality Permit
Application Process**

A combination of statutory language and administrative rules allow the permit issuance process to take up to 75 days from submittal of a complete application. Incomplete applications, discussion with applicants regarding permit conditions, and applicant or public appeals to the MBHES cause interruptions in the application review process.

Applicants are required to submit an application 180 days prior to their anticipated construction start date to allow time for preparation of an environmental impact statement (EIS) and public comment. Statute allows the department to waive the 180-day requirement when an environmental assessment (EA) rather than an EIS is required. AQD does not prepare an EIS if the source is subject to the Major Facility Siting Act

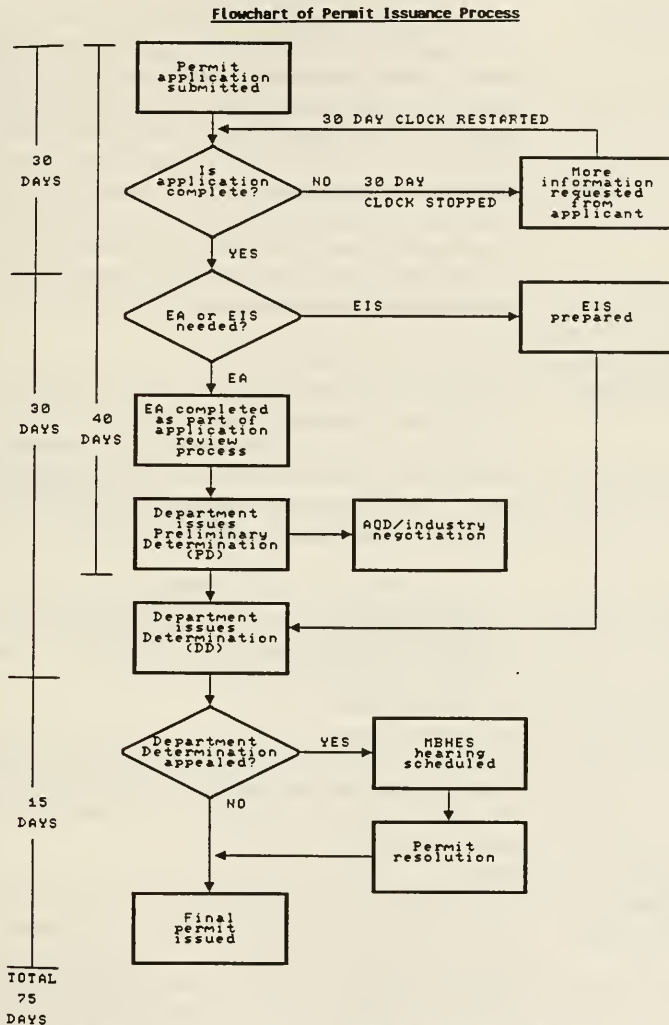
Chapter V

Air Quality Permits

administered by the Department of Natural Resources and Conservation. AQD staff assist as necessary. Our review of 19 air quality permit files indicated 19 EAs for facility modifications were prepared within the time lines established by statute. EAs provide AQD with an assessment of the potential impact to the physical and human environment.

The following flow chart shows permit application and issuance processing steps and associated statutory/rule timing. We discuss the review process in more detail in subsequent sections.

Figure 5



Source: Compiled by the Office of the Legislative Auditor from department records.

Chapter V

Air Quality Permits

Pre-Application Meetings are Useful

For major projects, the division typically conducts a pre-application meeting with industry representatives. The meeting allows industry to advise AQD staff of production and process options. Staff can then respond with air pollution control options and requirements. The pre-meeting assists source representatives in determining air quality permit application requirements, and allows for easier compliance with timing criteria following application submission. Regardless of whether a pre-meeting is held, applicants are responsible for submitting complete applications. Application completeness requirements are identified in the division's standard application form.

Application Completeness Determination

Following application receipt, staff review the application for completeness. According to statute, the department has 30 days to determine application completeness. An incomplete determination by staff stops the 30-day clock. The application is complete when the applicant provides required information. Application completeness requirements include:

- equipment/facility specifications.
- emission data.
- air quality modeling and impact analysis.
- best available control technology analysis.
- public notice.
- application fee.

Staff also review emission data to substantiate the applicant's permit fee calculation and payment. If the application fee calculated and paid by the applicant is too low, the application is deemed incomplete.

Conclusion: Staff Follow 30-day Completeness Determination Criteria

In a sample of 19 new source/construction permits issued during 1992 and 1993, we found 13 were deemed incomplete by staff based on the criteria listed above. Lack of adequate air quality analysis/modeling was the most common application incompleteness item. We found most applicants quickly provided material identified by staff as incomplete or missing. For our file sample, we found staff met the 30-day completeness determination criteria following application receipt in every case. We noted 11

of 19 permits were deemed complete or incomplete within 20 days of application receipt.

**Staff Coordination of
Permit Conditions**

During our review of application files, we evaluated staff coordination. Internal division staff coordination helps maintain consistency between issued permits, assure the capability to conduct compliance monitoring following permit issuance, and tie state implementation plan (SIP) requirements to permits issued for nonattainment area emission sources.

To ensure consistency between issued permits, division staff maintain a Section Permit Policy Manual to document policy clarifications of both state and federal requirements. Division management also routinely contacts Region VIII EPA officials to verify department interpretation of federal air pollution control requirements.

Conclusion: Staff Coordination Documented

We found coordination between Permitting Section staff and SIP, modeling, ambient air monitoring, and compliance and enforcement functions adequately documented.

**Preliminary Determination
Completed**

Within 40 days of submittal of a complete application, administrative rules require staff to forward a preliminary determination (PD) to the applicant. The PD specifies intended air quality permit conditions and air pollution control requirements. To prepare the PD, division staff evaluate application information to determine if the engineering data and/or manufacturer's specifications provided by the applicant meet air pollution control requirements. Sometimes it is necessary for Permitting Section staff to meet with industry representatives and visit facilities to verify existing equipment configuration and placement, operating processes, and equipment installation or construction plans.

Conclusion: PD Timing Met

During our file review, we found the division meets the 40-day PD issuance criteria.

Chapter V

Air Quality Permits

Department Determination

The division allows 15 days for the applicant or the public to respond to the PD. If there are no comments, staff issue a department determination (DD) finalizing permit requirements. If comments are received, AQD has to determine whether to proceed with a DD. According to statute, AQD has 60 days from submittal of a complete application to forward a DD to the applicant. If a PD is prepared and forwarded to the applicant quickly, more of the 60 days are available for staff to review any comments or concerns and to discuss and resolve issues prior to the 60-day DD milestone. The division uses draft DDs to help resolve disagreements.

Compliance with DD Timing Criteria not Met

During our review, we noted two examples in the sample of 19 permit files of staff exceeding the 60-day criteria. In addition to industry PD disagreements, other issues impact the 60-day milestone. SIP activity makes the permitting process more complicated. For example, development of an agreement limiting a source's operating/production rate to control pollutant emissions could delay preparation of a DD. Staff wait until the agreement is finalized before issuing a permit when the agreement requirements relate directly to control equipment and timing coincides with a permit application. Discussions pertaining to the terms of the agreement can take several months and as a result, the 60-day DD criteria may be missed.

Administrative Rules require the consolidation of multiple permits affecting one facility into a single, comprehensive permit when a new construction or modification application is submitted. While effectively consolidating air pollution control requirements, this policy increases permit review and preparation complexity and impacts the division's ability to meet statutory and rule timing criteria.

Lack of Resolution Results in Appeal to the MBHES

If discussion of alternatives with division staff does not resolve an applicant's or the public's concern and a DD is issued, the only recourse is to appeal to the MBHES to change permit conditions or requirements. If an appeal is filed, the permit is not final and permit conditions do not apply. Resolution is eventually accomplished through the MBHES hearing process.

According to staff, when a permit appeal hearing is convened, historically the MBHES requests AQD work with the applicant to resolve the issue. The impact is a minimum two to four month delay. Our observations of MBHES hearings indicated the delay results from formal requirements to schedule agenda items, prepare hearing documentation, then conduct the appeal hearing.

**Statutory Language
Should be Revised**

It appears to be in the best interest of all parties when noncompliance with the statutory 60-day criteria is due to on-going discussion between the division and a permit applicant. By issuing a controversial DD, which would probably be appealed by an applicant or the public, the division would waste valuable department resources as well as limited MBHES time. During file review, we did not find an example of a controversial issue which was addressed by the applicant during PD review, but appeared in the DD anyway. For the two examples we noted which passed the 60-day milestone, staff resolved the issue rather than proceed with a DD which would have been appealed.

The department should address the noncompliance issue. For example, the department could develop additional statutory provisions to allow the flexibility needed to resolve complex air quality issues. The existing 60-day criteria should not be eliminated because it provides a basis for expeditious processing of most air quality permit applications.

The department agreed a statutory change is needed and will develop language to address extending the 60-day permitting time line when the applicant and the department mutually agree an extension is justified.

Recommendation #5

We recommend Air Quality Division seek legislation to provide for mutually agreed upon extensions to the current 60-day criteria for issuing a department determination.

Chapter V

Air Quality Permits

Final Permit Issued

Fifteen days after issuing the department determination a final permit is issued unless the applicant or another party files an appeal of permit conditions with the MBHES. The department does not make changes to DDs except when directed by MBHES order. A letter is forwarded to the applicant indicating the DD is now a final air quality permit.

Portable Sources Permitted

Portable sources (mostly asphalt plants and gravel crushers) generally follow the same permit application review and completeness determination procedures as industrial new source and construction facilities. Usually, information needed from the application is less detailed and complex, resulting in less time for application review and processing.

Conclusion: Portable Source Permit Application Procedures Consistent and Timely

From a sample of portable source permit files, we determined the division's portable source air quality permit application review procedures are consistent with statutory and administrative rule criteria and are timely.

Air Quality Open Burning Permits Issued

In addition to new source/construction and portable source permits, the division administers a program for issuance of open burning permits each year. Sources apply for permits to burn a variety of wood product trade wastes, timber harvest slash piles, and agricultural crop land. Open burning permits can allow burning year-round, but generally prohibit burning from September through February when Montana weather is susceptible to inversions.

Administrative rules provide for two categories of open burning. Major sources requiring a permit are defined as having emissions of 500 tons per year of carbon monoxide or 50 tons per year of any other pollutant. Minor sources do not require a permit and are defined as anything less than a major source.

Major sources are charged a fee based on estimates or the history of pollutant emissions from the previous burning year. Using EPA-approved pollutant emission factors, staff convert applicant

open burn acreage estimates to tons per year of pollutant emissions. Fees are calculated using open burning fee rates specified in administrative rules and approved by the MBHES. There is a minimum fee of \$250.

Minor sources, such as landfills and trade waste burning sources apply for and pay an annual fee of \$100. Other open burn categories and associated fees include emergency burns (\$100) and fire fighter training (\$0).

Open burning for many wood products industry sources are administered through the Montana Smoke Management Group. This group monitors weather conditions and controls slash burning from September through November each year. During the remainder of the year, most Montana communities issue burning permits locally (leaves, grass, etc.) as a fire safety measure, rather than for air pollution control.

***Conclusion: Open Burning
Permit Application Processing
Consistent and Timely***

During our audit, we evaluated open burn permit application processing. We determined the current program is consistent with statute and rule and is timely.

**Unpermitted Emission
Sources**

We reviewed compliance with the statute requiring air quality permits for all Montana sources emitting more than 25 tons of criteria pollutant each year (5 tons for lead). We believe the intent of the statute requiring application submission for air quality permits is to assure the department "considers" all pollutant emission sources for compliance with Montana and federal air quality standards and air pollution control requirements. When sources emitting more than 25 tons per year are not reviewed for air pollution controls required by state and federal regulation, air quality standards may be jeopardized.

Identification of Unpermitted Sources is Gradual

Staff described the current process for permit population identification as slow but progressing. Staff expressed concern for several categories of sources which may not be adequately permitted:

Chapter V

Air Quality Permits

- unpermitted emission sources at facilities with existing permits, since older permits often address a primary source, but may not include minor sources.
- grain elevator operations.
- natural gas compressor stations.
- ready mix concrete operations.
- major open burning activities.
- asphalt plants and gravel crushers.

We also asked a sample of industry representatives if the state's emission sources requiring permits were adequately identified and permitted. Our sample suggested major sources are known to the AQD and permitted, but some minor sources, with emissions around 25 tons/year, probably are not.

One reason sources do not submit applications is disagreement over the definition of emissions. While section 75-2-211, MCA, defines sources which cause or contribute to air pollution, the rules more specifically address sources with a "potential" to emit pollutants. State use of potential rather than actual or historical emissions is based on mandated federal criteria. Potential emissions are an issue to applicants because of the inference of a standard operation such as year-round activity. Many of the unpermitted sources do not have a standard operating period. For example, grain elevator and ready mix concrete owner/operators seldom operate year-round and are likely to view potential emissions as unrealistic, so are unwilling to submit a permit application with fees based on potential emissions.

According to staff, mandated growth in air quality permit programs (operating permits, small business, and air toxics) should help identify additional sources requiring permits. As an example, while very few grain elevators are currently permitted in Montana, initial review of these sources for Title V operating permits resulted in a list which revealed approximately 130 grain elevators operate in Montana. Emissions, equipment, and operating processes must be evaluated before determining how many of the 130 meet Title V criteria of 100 tons per year. One of the results of this evaluation should be more visibility regarding unpermitted sources which require air quality permits because they exceed 25 tons per year.

Public complaints also help identify sources. As recently as two to three years ago AQD knew little about the number of asphalt plant and gravel crusher operators. Now they maintain a list of 150 permitted sources. Complaints apparently initiated identification of gravel crusher operators.

**Division Procedures are
Needed**

Staff agreed there were no formal procedures for reporting identified unpermitted sources to AQD either by state agencies or cities and counties. The division has neither a policy for determining when to pursue the need for a permit application following identification of an unpermitted source nor procedures for follow-up once contact with the source is established. In the case of mines, Department of State Lands' (DSL) operating permit process and the location of one AQD staff in DSL results in a more structured process.

We believe the key to increasing permit application compliance is development of procedures for division staff to follow when deciding on how to pursue identified unpermitted sources. The division should have procedures which provide for notification of identified owner/operators of the requirement to submit an air quality permit application. If an application is not received in a timely manner, follow-up could include the need to issue an air quality violation citation and the case could be forwarded to the division's Compliance and Enforcement (C&E) staff. Additional follow-up, if necessary, could involve on-site inspection and/or citation issuance. While formal enforcement action follow-up is unlikely, it should not be eliminated from the list of possibilities (see discussion in Chapter VII).

The department acknowledged the need to increase permit application compliance. The division intends to use a combination of Permitting and C&E staff to pursue one-on-one contact with sources and to develop internal procedures to notify sources of the need for an application and follow-up if necessary.

Chapter V

Air Quality Permits

Recommendation #6

We recommend the Air Quality Division establish procedures to notify and follow-up with sources regarding the statutory requirement to submit air quality permit applications.

Assessment of Permitting Audit Objectives

Our audit objectives for air quality permitting were based on the following questions:

Do division procedures ensure accurate assessment and timely permit application fee collection? We determined the fee assessment and collection process for permit applications (new source, construction, open burning, trade waste, and asphalt/crushers) ensured accurate assessment and timely collection of fees.

Do division procedures provide for identification of emission sources and timely issuance of air quality permits? We determined the division needs to establish procedures to notify and follow-up with sources regarding the statutory requirement to submit air quality permit applications. Division staff identified categories of sources where owner/operators may not have submitted air quality permit applications as required. By developing procedures for notifying unpermitted sources, the division could improve the process.

We determined the division's air quality permit application review process is timely and consistent with statutory and administrative rule criteria. A statutory change regarding the 60-day criteria for department determinations will provide staff the flexibility necessary to resolve complex air quality permit issues.

Chapter VI

Inspection and Compliance Monitoring

Introduction

Following the development of state implementation plans (Chapter IV) or the issuance of air quality permits (Chapter V), facility inspection and compliance monitoring are required to assure emission sources do not violate air pollution control criteria. The Compliance and Enforcement (C&E) Section of the Air Quality Division (AQD) conducts air quality and air pollution control compliance monitoring and facility inspection. Compliance with federal and state air quality statutes, rules, and air quality permits is determined by: 1) on-site facility inspections conducted by department staff, and 2) routine review of emission data submitted to AQD by industrial emission sources. The data is based on predetermined collection and submission schedules.

Facility Inspection Requirements

The Montana/EPA Agreement (MEA), prepared by the department in conjunction with the Environmental Protection Agency (EPA) includes an inspection plan, known as the Compliance Monitoring Strategy (CMS) Plan. The inspection plan, prepared by AQD, identifies the number of sources targeted for inspection and the frequency of inspection for sources targeted for more than one inspection each year.

The MEA requires the state to conduct on-site inspections. State law authorizes the department to enter and inspect, at reasonable times, any property containing an air contaminant source except a private residence. Air pollution control devices are examined and process operating conditions recorded. In addition, inspectors observe visible stack emissions.

EPA established different inspection frequencies based upon the level of emissions. Sources classified as A1 have actual emissions of 100 tons per year of criteria pollutants. According to division staff, Montana has about 70 A1 sources requiring at least one annual inspection. Sources classified as A2 have the potential to emit more than 100 tons per year, but actual emissions are less than 100 tons per year. The CMS identifies specific A2 sources intended for annual inspection. Most A2 sources do not require

Chapter VI

Inspection and Compliance Monitoring

an annual inspection. According to AQD staff, Montana currently has 60 A2 sources.

Facility Inspection Process

Inspection of permitted emission sources includes facility inspection, division response to detected violations, and compliance follow-up. C&E staff are also responsible for providing technical assistance to industry sources to help assure compliance with air pollution control requirements. Sources are assigned to inspectors based upon individual technical expertise. The following sections discuss various improvements that could be made to the inspection process.

Need for a Checklist for Inspection Preparation, Site Documentation, and Reporting

During the audit, we noted inconsistent inspection preparation, site documentation, and report content. Without pre-established preparation steps, staff may not identify important process, control, complaint, SIP, or ambient air information prior to the inspection. During our enforcement case file review, we noted documentation which indicated staff were not aware of source stack performance test requirements until conducting an annual on-site inspection. Once on-site, it is usually too late to review test criteria and procedures to verify compliance. Ineffective inspection preparation could also result in staff overlooking violations of air quality rules and/or air quality permit conditions during on-site inspections, as well as impact future enforcement case support. Similarly, without pre-determined on-site inspection steps, staff could overlook critical operating, air pollution control, and/or process documentation during an inspection.

We observed inspectors documenting on-site inspection activities in various ways: handwritten notes, annotating previous inspection reports or copies of facility permits, and collecting facility operations and/or air pollution control data. We found they do not use a formal checklist to conduct inspections.

Our review of inspection report files revealed inconsistent report emission source detail. Some inspectors provide detail on individual point sources (stacks), others do not and instead indicate an overall facility status. According to staff, the

requirement for inspection report detail was discontinued due to changes in the annual emission inventory process which generated similar emissions detail. Interviews with EPA officials reflected concern about AQD's report format change because of the need to validate inspections with point source detail. We examined 20 inspection reports completed prior to 1993. Eighteen of the 20 reports documented compliance status of each point source at the facility inspected. In the 1993 reports we reviewed, an overall facility compliance status was more common, although one inspector continued to provide point source detail.

Guidance and Formats are Available

EPA developed a Guidance Document, "Inspection Protocol and Model Reporting Requirements for Stationary Sources", in 1991, which recommends a standard format to maintain inspection consistency. The standard indicates inspection reports should include a description and summary of all emission points, file review observations, and inspection procedures.

Development of an inspection checklist could help the division assure consistent inspection preparation, on-site documentation, and report content. Since inspection reports are often used for enforcement case evidence, consistency provided by a checklist should improve evidence quality.

The EPA-offered format could serve as a basis for pre-inspection through report preparation to simplify the process. AQD could establish checklist items that add unique procedures/requirements for specific types of facilities. We believe retention of inspector flexibility to assess emission activity during inspections is important. The facility-unique checklist would allow flexibility and still achieve the advantages of a single document serving all three requirements: inspection preparation, on-site inspection, and report content.

Chapter VI

Inspection and Compliance Monitoring

Recommendation #7

We recommend the Air Quality Division develop a checklist for inspection preparation, on-site inspection, and report content.

CMS Plan Targeted 127 Sources

The CMS Plan prepared by the division in November 1992 for fiscal year 1992-93 targeted 127 sources for inspection. Targeted sources were classified as A1 sources or A2 nonattainment area sources. Targeted sources did not include 150 portable asphalt plants and gravel crushers, which the CMS Plan identified for inspection based on public complaint only.

Division Revised Inspection Plan

In a June 1993 memo, AQD advised EPA of a revised schedule resulting in inspection of 49 major sources, versus 60 identified in the CMS Plan, and 23 county-inspected sources.

Division information indicated 47 of 49 sources targeted for inspection in fiscal year 1992-93 were inspected by October 1, 1993, the end of the federal fiscal year. AQD reported 63 total compliance inspections for federal fiscal year 1992-93. The following table reflects the number of fiscal year 1992-93 emission sources targeted for inspection and those actually inspected.

Chapter VI

Inspection and Compliance Monitoring

Table 5

	<u>Annual Inspection Activity</u> (Fiscal Year 1992-93)					
	<u>Targeted Inspections</u>			<u>Actual Inspections</u>		
	<u>Multiple Annual</u>	<u>Annual</u>	<u>Biannual</u>	<u>Multiple Annual</u>	<u>Annual</u>	<u>Biannual</u>
A1 Sources	18	42	0	18*	45	0
A2 Sources						
In nonattainment area	NR	24	NR	NR	2	NR
Not in nonattainment area	NR	NR	20	NR	NR	4
County Responsibility	NR	23	NR	NR	12	NR
Total	18	89	20	18*	59	4

* The 18 A1 sources identified in November 1992 CMS Plan for multiple inspections were inspected once; none received an additional inspection.

NR - There are no inspection requirements in these areas.

Source: Compiled by the Office of the Legislative Auditor from department records.

The 18 A1 sources identified in the November 1992 CMS Plan for multiple inspections were inspected once; none received an additional inspection. Ten A1 sources outside nonattainment areas targeted by the CMS Plan for annual inspections were not inspected. A2 sources outside nonattainment areas were not inspected, despite the CMS requirement to inspect all A2 sources within a two-year period. No portable sources were inspected, but division files revealed complaints for a few of these sources were investigated by staff during the year.

In a September 9, 1993, memo EPA indicated dissatisfaction with inspection numbers for fiscal years 1991-92 and 1992-93. EPA noted only 72 percent of the fiscal year 1991-92 targeted sources were inspected. We determined approximately 60 percent of the sources targeted by the CMS Plan for 1992-93 were inspected, although staff inspected 95 percent of the sources identified in their June memo which reduced the CMS Plan target. While acknowledging other division accomplishments and resources limitations, EPA requested specific justification for missing commitments or face the loss of federal funds. The division's response in March 1994 stressed the EPA-directed state implementation plan (SIP) priority reduced the capability to

Chapter VI

Inspection and Compliance Monitoring

accomplish other air quality requirements such as inspection and compliance monitoring.

After evaluating the inspection process and inspections accomplished for 1993, we considered alternatives for improvement. These are discussed in the following sections.

Scheduling Efficiency and Effectiveness Requires Improvement

We examined several factors which could influence inspection scheduling efficiency and effectiveness: unannounced inspections, year-round inspection schedule, travel/schedule review and coordination, and use of noninspection staff for minor/less complex inspection requirements.

Unannounced Inspections

According to AQD and EPA staff, compliance inspection schedules should not be announced to targeted industry sources. Neither the MEA nor the CMS Plan addresses the unannounced inspection criteria. Both AQD and EPA staff indicated unannounced inspections are preferred since many industry sources can adjust operating processes or fuels, temporarily reducing emissions during an inspection. Staff also noted facilities record operating/production data which is available to the division and would reflect any significant process or fuel changes.

During our audit we observed 15 inspections; all were unannounced. Because the inspections were unannounced, we found industries scheduled for an inspection either not operating or in the process of shutting down, or industry staff unavailable for an inspection. Staff reacted to these disruptions by rescheduling inspections. In some cases, staff inspected other local facilities which were on the targeted source list. When alternative local facilities were selected, staff were not fully prepared to conduct the inspection.

The sample of industry representatives we interviewed did not express concern about unannounced inspections, but advised if the right company staff are not available, inspection could be a waste of time for the division. Inspectors might receive inaccurate information or might not be shown all air pollution control equipment.

Many of Montana's inspection sites are within two hours of Helena (Butte, Great Falls, Missoula) and inspections, including travel, can be conducted in one day. Other sources involve four to eight hours of driving and inefficient use of travel time detracts from available inspection time. One alternative which could improve staff utilization would be short term notification to verify facility operations and key personnel availability. Additionally, on a case-by-case basis staff could request more detailed operating/production documentation to verify on-going processes and pollution controls prior to an inspector's arrival.

**Inspection Scheduling
Based on Opacity Check
Requirement**

Staff indicated compliance inspections are scheduled from May through September because winter weather prohibits or at least limits inspection capabilities. File documentation showed most inspections are completed during the summer, although some mines are inspected throughout the year. Staff cited their ability to conduct valid opacity checks of visibility pollutants as the primary reason for the summer schedule.

**Specific Opacity Levels
Required by Air Quality
Rules**

Opacity levels refer to the amount of light blocked by pollutant emissions. Higher levels of emissions reduce the transmission of light and obscure the view of any object in the background. For older sources, operating prior to the 1969 Clean Air Act, 40 percent opacity levels are allowed. Opacity levels for newer source are usually 20 percent. Water vapor and steam are not pollutants, but may be mixed with pollutants. The opacity check process requires staff to average opacity readings observed every 15 seconds over a six or twelve minute period. A violation of air quality rules occurs if the average is over 20 or 40 percent depending on the amount allowable for the stack.

***Conclusion: Division Opacity
Check Procedures Add
Consistency to Inspections***

During our observations of staff, we noted consistent use of opacity checks, including determination of proper background and adequate weather for acceptable readings. In many instances, regardless of weather, the inspector quickly determined opacity was obviously within limits and a formal check was unnecessary. At a few facilities, rainy summer weather prohibited an accurate opacity check.

**Opacity Checks may be
Separate from Inspections**

Opacity checks do not require specific inspection scheduling or industry announcement. Most are conducted at an off-site

Chapter VI

Inspection and Compliance Monitoring

location close to the facility where an unobstructed observation is possible. Opacity checks do not need to be conducted at the same time as the inspection, so division staff could conduct an opacity check when they are in a geographic area for any reason, year-round.

Winter weather, while reducing opacity check opportunities, does not appear to reduce an inspector's capability to evaluate targeted facility operating processes and air pollution control equipment. AQD could increase inspection opportunity by planning year-round inspection, as long as division staff have the flexibility to conduct opacity checks at any time.

Inspection Scheduling Requires Review and Coordination

Inspectors prepare their own inspection schedules. Inspector travel schedules are not coordinated to consider travel duplication or to increase inspection opportunities.

We observed travel to locations such as Libby and Colstrip, where staff spent one and one-half days driving and conducted inspections for approximately one-half day. We observed two staff traveling through the Billings area on consecutive weeks when it appeared one inspector could have accomplished necessary work during one trip of three to four days. Travel could have been reduced significantly, allowing inspectors time to conduct additional inspections.

An effective inspection scheduling process should efficiently utilize staff resources and increase the number of inspections, inspection frequency, or inspector visibility. Management review of proposed inspection schedules, which considers travel duplication to increase effectiveness, is necessary.

Better Utilization of Staff Could Increase Scheduling Efficiency

While accompanying C&E inspectors on compliance inspections, we observed other AQD staff at facilities at the same time. Ambient Air Monitoring Unit staff were on-site for scheduled audit work or equipment calibration, Permitting Section staff accompanied inspectors on two occasions, and Modeling Unit staff were in the local area for nonattainment area projects.

Staff are not always aware of other's travel schedules because division travel is not coordinated. AQD management has not

established a process to coordinate staff travel schedules for efficiency or effectiveness, including consideration of driving time, duplication of travel, or possible use of noninspection staff to reduce travel.

In the previous section, we proposed staff other than inspectors could conduct opacity checks while traveling. Since we believe inspector specialization is necessary, some duplication of travel will still occur, but staff could achieve an increase in inspection frequency and/or number of sources. As an example, while traveling through Missoula to Kalispell for ambient air monitoring site maintenance or calibration, opacity checks of targeted Missoula sources could be accomplished. Similarly, regardless of inspector assignment, inspections of an inspector's assigned sources in Dillon or Deer Lodge could include opacity checks of sources in the Butte area. Better utilization of staff could increase the number of inspections, inspection frequency, and division visibility with industry.

**Alternatives Could
Increase Inspection
Scheduling Effectiveness**

AQD could increase its efforts to comply with inspection of emission sources targeted by CMS Plans. Resource limitations such as those encountered during 1993, should not automatically be reacted to by reducing the scope of the inspection effort. Options for inspecting a greater percentage of targeted sources or increasing the frequency of inspections include:

- conduct both announced and unannounced inspections.
- conduct inspections year-round.
- increase travel/scheduling efficiency.
- consider using noninspection staff for minor/less complex inspection requirements.

In response to our comments, the department acknowledged the potential for improvement of inspection scheduling by revising the policies for unannounced inspections and year-round inspections. The department plans to increase management review of inspector schedules. The department agreed with our proposal to consider using selected staff for minor inspection requirements such as opacity checks, although expressed concern regarding the capability of all staff to participate because of expertise and training.

Chapter VI

Inspection and Compliance Monitoring

Recommendation #8

We recommend the Air Quality Division:

- A. Coordinate with EPA to establish policy for accomplishing both announced and unannounced compliance inspections.**
- B. Schedule year-round compliance inspections.**
- C. Review and coordinate division travel schedules.**
- D. Consider using noninspection staff for minor/less complex inspection requirements.**

Compliance Monitoring

Industrial emission sources may be required to self-monitor their emissions either by conducting regularly scheduled stack tests for specific emissions or by using a device known as a continuous emissions monitor (CEM). The majority of the 70 major emission sources in Montana have stack test history maintained by the division; and most of the recently permitted sources have CEM requirements.

CEMs continuously measure pollutant emissions from designated point sources or stacks. CEMs generate large amounts of emission data because of their continuous operation and data recording. AQD staff review the data to verify compliance with point source emission criteria. CEM data submitted by industry provides both a monitor operating status and a pollutant emission level status. EPA policy defines a violation of CEM criteria as over 5 percent monitor down time or out of compliance time.

Stack testing may be used to determine compliance of the same sources as CEMs, but is more often relied upon for older facilities which are not required to operate CEMs. Stack or performance tests are point-in-time tests, although testing may be required on a frequency basis such as quarterly, annually, or quadrennially. Stack tests measure emissions for a specific

operating interval based on AQD and EPA approved testing procedures. AQD can conduct on-site observations of stack test procedures to verify compliance with pre-approved test protocol.

CEM or testing requirements may be required by permits or directed by consent decrees resulting from past enforcement actions or agreements developed for SIP requirements. C&E inspectors are responsible for monitoring CEM or stack/performance test due dates. Late receipt of one CEM or stack test report is typically not considered an enforcement issue. A warning memo or possibly a citation is sent to the source. If the data were not recorded or the test not conducted, enforcement action is possible.

Inspectors indicated awareness of CEM and stack test requirements for assigned sources is maintained through preparation for annual compliance inspections. Since most CEM sources were recently permitted, inspectors believe awareness of CEM requirements is high. Stack/performance test requirements are also included in air quality permit criteria. Staff have not prepared a consolidated list of CEM and stack test report requirements for review and tracking.

**Review of CEM and Stack
Tests Delayed**

According to staff, neither stack test nor CEM reports are time-consuming to review, but review delays are encountered. Review delays cause late notice of violations to industry sources and impact division pursuit of enforcement cases. Review of C&E files indicated 9 of 14 reflected timely review of emissions data and 5 did not. When evaluating this AQD program, EPA noted a division delay in reviewing a stack test resulted in the late identification of a significant violation. If data review indicates noncompliance and the review occurred weeks or months after the test date or report receipt date, determining the period of noncompliance is difficult. Inspectors scan reports when received to determine obvious compliance issues. If possible noncompliance is determined, inspectors review the report in detail.

Chapter VI

Inspection and Compliance Monitoring

AIRS Database not Updated

According to staff, while copies of reports are maintained in C&E files, procedures do not include loading CEM or stack test data into the Aerometric Information and Retrieval System (AIRS) as required by EPA. C&E staff are evaluating software to establish the capability to record and review CEM data, which would eventually include a link to AIRS. Initially, staff expect to use the software to analyze data, but anticipate an adaption for tracking requirements. Division management noted other AQD and EPA priorities for permitting and SIPs detracted from the division's ability to comply with the requirement to enter CEM data into AIRS.

Tracking System Needed

Staff and management are aware of inconsistent review procedures and recognize more control is needed. Existing procedures do not include a capability to track: 1) CEM/stack test requirements, 2) receipt verification, or 3) timely review of emissions data critical to air quality compliance monitoring and enforcement case resolution. AQD should establish internal procedures for CEM/stack test data tracking and analysis.

In response to our interim audit communication, the department acknowledged the need for a tracking system and added the requirement to a program assistant position created to develop a variety of necessary air quality tracking capabilities.

Recommendation #9

We recommend Air Quality Division management establish a tracking capability to assure receipt of required reports, timely review by staff, and compliance with EPA database management requirements.

Complaints Program

C&E inspection staff are responsible for public complaint investigation. Position descriptions specify inspectors are responsible for determining validity, cause, control measures, and follow-up to assure resolution of complaints.

**Complaint Investigation
Procedures**

The complaint process is often initiated by a telephone call or receipt of a letter describing an air pollution concern. Complaints are assigned to inspectors already responsible for the source most likely contributing to the suspected pollution. Any available inspector can begin an investigation.

Investigations can include a site visit, but usually start with a telephone call to the source to determine if operating problems resulted in abnormal emissions. Complaint investigations could include formal compliance inspections depending on complaint severity, time available, and distance to the source. Staff do not issue a citation based on a complaint unless the investigation verifies a violation.

When possible, staff request qualified county officials investigate the complaint to take advantage of the officials' proximity to the source. Since most complaints involve an unusual emission, a quick reaction resulting in an opacity check by a qualified official helps determine if a violation occurred. Since county officials do not have the same statutory entry authority as AQD inspectors for major sources, most on-site investigation must be accomplished by C&E staff.

***Conclusion: Initial Complaint
Investigation Timely***

We interviewed division staff, county officials, and industry representatives and reviewed division files to assess the complaint program. Thirteen of 20 C&E files sampled contained documentation of complaints. All reflected timely investigation of the initial complaint.

Chapter VI

Inspection and Compliance Monitoring

Tracking System Necessary for Complaint Resolution

Six of the 13 C&E files we reviewed reflected complaint follow-up and resolution such as additional phone calls to the source, site visits, correlation of the complaint to available ambient air monitoring data, or formal compliance inspection. The remaining seven files did not indicate follow-up or resolution.

AQD lacks procedures which assure completed investigation, follow-up when necessary, and complaint resolution to include a return to compliance if a violation is determined. If the complaint results in a citation and an enforcement case is pursued, tracking the case to resolution is part of the enforcement process (Chapter VII). If the case is not pursued for enforcement, the assigned inspector is responsible for determining compliance and resolution. The annual compliance inspection can result in follow-up. During our audit, we noted staff turnover; two of five positions were vacated and one was filled. Without a complaint tracking capability, new staff are not aware of complaint history and/or facility status without considerable research and file review.

Since follow-up is frequently limited to the next inspection, many sources are seldom re-examined. For example, the CMS Plan indicated A2 sources outside nonattainment areas and 150 portable sources (asphalt plant and gravel crusher operators) would only be inspected based on receipt of public complaints. As a result, these sources do not receive automatic follow-up. Without tracking complaints to resolution, AQD cannot assure compliance with federal or state air quality standards or the protection of human health and safety.

A division complaint tracking capability, accessible to all sections, could facilitate permit application review, SIP development, enforcement case processing, and compliance monitoring as well as complaint investigation. Emission source history and regional trends would be more available, and therefore more useful to all staff. The tracking system should include investigating inspector, need for follow-up, and resolution.

The department acknowledged the need for a tracking system which follows complaints through final resolution and intends to develop the capability.

Recommendation #10

We recommend Air Quality Division establish a complaint tracking system.

**Compliance and Inspection Staff Visibility
Impacts Deterrence**

The role of compliance inspectors is more than determining emission source noncompliance. Inspectors are also responsible for attempting to assure industry compliance. Both roles require inspector visibility, which we define as time in the field year-round. Based on our discussions with a sample of industry representatives, industry does not perceive inspector activity as a deterrent because of limited visibility.

Without deterrence, which is associated with on-going and routine inspector involvement in facility operations, industry has less incentive to make compliance-oriented decisions. Our audit fieldwork indicates there are other deterrent factors which also effect air quality compliance/noncompliance decision-making. These include enforcement case penalties and public reaction to negative media coverage associated with discovery of air quality violations. These two factors can compliment deterrence resulting from inspections and inspector visibility, but all are necessary. The inspection and compliance monitoring concerns addressed in this chapter detract from the department's inspection-related deterrence effectiveness. We believe our recommendations could improve inspection and compliance monitoring efficiency and effectiveness.

The legislation which authorized the department inspection authority makes industry aware of the consequences of noncompliance and establishes the importance of deterrence to prevent future violations.

Chapter VI

Inspection and Compliance Monitoring

In response to our comments the department acknowledged the potential for increased deterrence given implementation of the majority of our recommendations.

Assessment of Inspection and Compliance Monitoring Audit Objectives

To assess our audit objectives for this area, we considered staff assignment, turnover, and workload priorities. Throughout most of 1993, five staff were assigned to six C&E FTE positions. One inspector had less than six months of air quality experience at the beginning of our audit. One position was left vacant due to budget limitations. A filled position was used for SIP development, a division and EPA priority. Four staff were available for inspection and compliance monitoring.

Our audit objectives for air quality compliance monitoring and inspection were based on the following questions:

Do division procedures ensure timely and comprehensive inspections which accurately assess industry compliance with Montana's air pollution control requirements? We determined inspector expertise and competency provided a foundation for a viable inspection and compliance monitoring program. Although C&E Section priorities resulted in the inspection of the most significant emissions sources in Montana, improvements in inspection preparation, documentation, and scheduling are needed to increase inspection efficiency and effectiveness. Better scheduling could increase the number of inspections accomplished and inspection frequency. More inspection activity should directly impact the department's ability to deter sources from future violations of air quality statutes/rules.

Do division procedures provide accurate and timely source emissions data? We determined the division's process for receiving and reviewing continuous emissions monitor (CEM) data/-reports and performance or stack tests lacks control. Division staff did not have a tracking capability to verify receipt of all required reports and documentation did not reflect timely review of all data received. Tracking and control capabilities are necessary for division staff to ensure compliance with air pollution control criteria.

Chapter VII

Air Quality Enforcement

Introduction

Following determination of an air quality violation by the Air Quality Division's (AQD) inspection and compliance monitoring staff, the Department of Health and Environmental Services (DHES) determines the need for enforcement action. According to statute, the state may cause written notice to be served, indicating the department is not required to pursue all air quality violations through formal enforcement action.

Enforcement can be as simple as sending a warning memo to an air quality rule violator requesting correction of an air pollution deficiency. At the other end of the enforcement scale, civil court proceedings can result in penalties and require the installation of pollution control equipment.

Enforcement Background

Enforcement action is described by the Environmental Protection Agency (EPA) as a necessary means of achieving industry compliance with air quality requirements. According to EPA, enforcement acts as a deterrent to other industry sources. Assuring violators return to compliance with applicable air quality and air pollution control regulations is an inherent part of the enforcement process.

DHES is responsible for determining the necessity to pursue individual and facility air quality violations. The department can obtain voluntary compliance through warning, conference, or any other appropriate means. Failing voluntary compliance, or following a determination by the department of the need for formal enforcement action, statutes prescribe criteria for issuing administrative orders (AO), administrative penalty orders (APO), and notices of non-compliance. All provide a means to obtain necessary correction and/or penalty. Ultimately, the department has the option to pursue either judicial or administrative penalty. AQD can base enforcement decisions (AO versus civil proceeding) on factors such as the source's compliance history, significance of the violation and cooperative attitude.

During the past four years, staff completed four to five major cases (civil suits filed) and three to four minor cases each year.

Chapter VII

Air Quality Enforcement

The department has collected over \$200,000 a year in penalties since 1991.

Federal Oversight of Enforcement

Violations of federal air quality rules often qualify as EPA significant violations (SV). These are pursued through civil court proceedings because EPA enforcement policy requires a penalty. The Montana/EPA Agreement (MEA) requires AQD to meet monthly with EPA to discuss SV cases. The agreement also requires the division to provide EPA with copies of all enforcement actions although the EPA is not usually actively involved in the department's non-SV cases.

The Enforcement Agreement (EA) between EPA and AQD establishes enforcement policy parameters for the state regarding stationary sources in violation of federally enforceable regulations or permit requirements.

Penalties are Assessed

When processing enforcement cases, the department follows criteria contained in EPA Civil Penalty Policy. Penalties, according to EPA, should remove significant economic benefit resulting from noncompliance, and include an amount beyond recovery of economic benefit to reflect violation seriousness. Settling for amounts which do not recover economic benefit can encourage industry to wait until EPA or the state begins an enforcement action before complying with air quality regulations. Penalties can be adjusted for specific reasons including: size of the business, economic impact of the penalty, violator's compliance history and good faith efforts, duration and seriousness of the violation, economic benefit of noncompliance, importance to regulatory scheme, and degree of willfulness, negligence, or cooperation.

AQD's Civil Penalty Policy document, which is in draft format, establishes a penalty philosophy very similar to EPA criteria. AQD has two enforcement goals: 1) deterrence must be well placed and publicized, and 2) fair and equitable treatment of the regulated community. By statute, Montana's maximum penalty is lower than EPA's recommended limit, \$10,000 compared to \$25,000 per day of violation. Penalty factors (economic benefit

and violation seriousness) are similar to those established by EPA policy, and calculations are prorated for the state's limit difference (\$10,000 versus \$25,000). Penalties are not reduced for credit or reward for correcting something that was in violation of the law and should have been corrected earlier. Environmentally beneficial mitigation projects may supplement, but not replace penalties or offset portions of the penalty associated with economic benefit.

In addition to monetary penalties, violators may be directed to use specific technology to comply with air quality and air pollution control requirements by a date determined by the department.

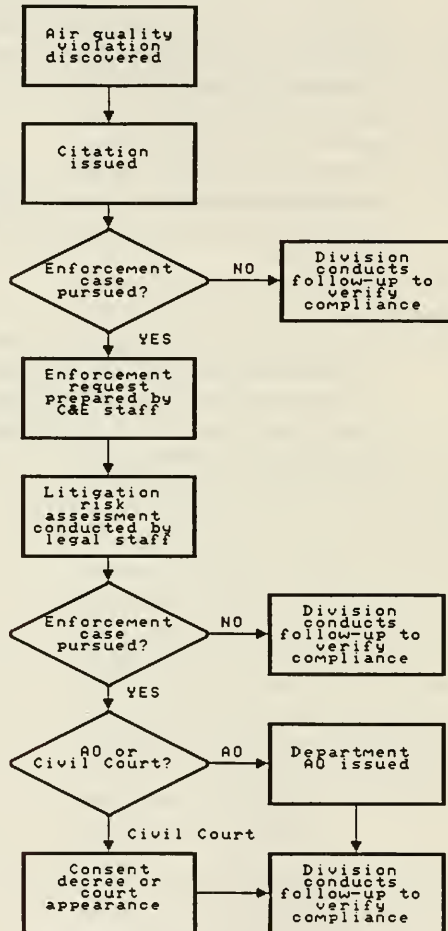
Enforcement Process

Enforcement case preparation and review procedures for the two most commonly used enforcement actions, administrative orders (AO) and civil court proceedings, are similar to the point of court filing. Figure six reflects the flow of enforcement cases processed by the department.

Chapter VII
Air Quality Enforcement

Figure 6

Flowchart of Enforcement Case Process



Source: Compiled by the Office of the Legislative Auditor.

The following sections describe the enforcement process for AOs and civil court proceedings.

Citations are Issued for Violations

Following AQD staff determination of an air quality or air pollution control violation, division management determines the need to issue a citation. Citation issuance is based on factors such as severity of the rule/permit condition violated and compliance history of the owner/operator. Upon determining a violation warrants a citation, the department advises the source of the violation and potential for enforcement action. When staff issue citations, the department is responsible for follow-up to determine return to compliance.

Citation Tracking and Follow-up is Responsibility of Individual Inspectors

Inspectors are assigned specific emission sources to monitor for compliance or noncompliance, including any activity resulting in citation issuance. Citations may be issued throughout the year based on ambient air monitoring (Chapter III) or inspection and compliance monitoring (Chapter VII) violations. During our audit, the division did not have a system to formally track all citations. Compliance and Enforcement Section (C&E) inspectors issue citations, often following research and discussion with other division staff, and provide copies to the section supervisor. Division management relies on C&E inspectors to monitor their sources following citation issuance to assure final resolution and compliance.

During the audit, six C&E positions were authorized with two additional positions authorized for the 1994-95 biennium. The larger the organization becomes, the more difficult it is for staff to be aware of citations and violation resolution.

Citations which result in SV enforcement cases, monitored by the EPA, are tracked by staff to resolution because joint monitoring (AQD and EPA) continues until cases are judicially or administratively resolved. During a September 1993 division meeting to discuss the priority of potential enforcement cases, staff reviewed a list of 22 non-SV citations. At the meeting, staff determined several of the cases did not have priority for enforcement activity and further discussion at future monthly enforcement meetings was not warranted. In such cases,

Chapter VII

Air Quality Enforcement

followup monitoring to assure compliance resolution is the assigned inspector's responsibility.

The intent of legislation which authorizes the department to obtain either voluntary corrective action or pursue formal enforcement action is to continue to evaluate air quality violators to ensure resolution and return to compliance. Without a capability to track citations to resolution, supervisors and staff can not verify corrective action or return to compliance. Follow-up visits or inspections by division staff may be required to verify corrective action and might be part of the resolution, particularly if enforcement action is not warranted. Lack of follow-up could jeopardize a determination of final resolution and return to compliance, and could impact the deterrent effect associated with identifying air quality rule violations in the first place. A tracking system which includes identification of corrective action, the need for follow-up inspection or monitoring, and a determination of final resolution could also be useful to staff and management for historical tracking and trend analysis.

The department acknowledged the need for citation tracking to assure resolution and compliance with air quality statutes/rules and intends to establish a citation tracking capability. The requirement was added to a program assistant position established to develop a variety of necessary air quality tracking capabilities.

Recommendation #11

We recommend the Air Quality Division develop a citation tracking system.

**Enforcement Request and
Litigation Risk Assessment**

During the monthly enforcement meeting, division management determines whether the violation warrants expenditure of resources necessary to pursue an enforcement case (judicial or administrative action). C&E staff also prepare an enforcement request for the department director's review and approval, including attachments identifying violation evidence and proposed enforcement action and penalty calculations.

The number of enforcement requests processed varies depending upon the complexity of individual cases. During our audit, four to six air quality cases were in the enforcement request review process at any given time. It is not unusual for an enforcement request to remain in the review process for several weeks until available evidence has been evaluated and validated by management.

The department's decision to pursue an enforcement case includes consideration of many factors: priority of the case, public health issue versus a "paper" issue, impact on air quality policy and the environment, need to recover economic benefit, time elapsed since the violation, geographic location in Montana, and type of industry. If the director decides to proceed, the enforcement request is forwarded to the AQD attorney who conducts a litigation risk assessment as part of case preparation. The litigation risk assessment is a technical review of compliance criteria and noncompliance evidence. The assessment may result in recommended revisions to the selected enforcement action and associated penalty alternatives. Penalty calculations are still based on EPA penalty policy adjusted for Montana penalty limits. The attorney's litigation risk assessment may establish upper and lower penalty limits to help determine the settlement.

**Impact of Attorney
Generated Technical
Reviews for Enforcement
Requests and Litigation
Risk Assessment**

The staff attorney conducts detailed technical reviews of compliance issues which limits the number of total enforcement cases to three or four at a time. Lengthy legal technical reviews are necessary because the quality of enforcement request packages prepared by C&E staff is not adequate for a thorough litigation risk assessment.

Chapter VII

Air Quality Enforcement

Our review of legal case files confirmed extensive technical verification of engineering-related information (equipment, procedures, and controls) by legal staff to prepare enforcement requests and establish litigation risk. We recognize the complexity of air quality enforcement issues and the need for a joint review effort between C&E staff and the attorney, but case files reflected a significant effort by legal staff to prepare an acceptable enforcement request.

The existing technical review process limits the possibility of handling more cases. AQD management has not established a process to improve the technical quality of enforcement request packages to reduce the extensive legal involvement. As a result, because significant violation (SV) cases are resource intensive, air quality enforcement cases handled by the department are limited to SVs, unless overriding health or public relation issues warrant priority. This inhibits the department's enforcement effectiveness and deterrence potential.

Responding to our recommendation, the department commented that limited legal resources had the effect of reducing the quantity of enforcement actions. Additionally, the department noted improved technical research and review by C&E staff would decrease attorney workload. The department intends to use additional C&E and legal resources to address the technical research issue.

Recommendation #12

We recommend Air Quality Division more effectively balance technical review and research workload between C&E and attorney staff.

**AO or Civil Court
Proceedings Followed**

Following the litigation risk assessment, department management decides whether to pursue the enforcement case. The decision to pursue the case includes selection of AO or civil court proceedings. Division data reflects the majority of cases processed since 1991 were civil proceedings.

If the violation is classified as SV by EPA, a penalty is required and civil court is the only choice. If the violation does not qualify as an SV, the department determines if corrective action alone is adequate. If so, an AO is pursued; if not, a penalty and civil proceedings are pursued.

**AO Determination Pursues
Corrective Action**

AO determinations reflect corrective action directed by the department but are not filed in court. The corrective actions in the AO, which return the source to compliance, are legally binding and included in future compliance monitoring by division staff. AO requirements may be appealed by the affected source to the MBHES. Up front discussion with industry concerning corrective action is an alternative, but not required, in order for the department to issue an AO.

**Civil Court Proceeding
Pursues Corrective Action
and Penalty**

Most civil court filings do not result in court appearances, rather a settlement (known as a consent decree) is reached prior to court appearance. For civil court cases, mitigation factors and supplemental payments addressed in the penalty policy may be considered when AQD negotiates with the industry source regarding penalties. Consent decree corrective actions are also legally binding for future compliance monitoring.

**Enforcement
Alternatives**

According to statute, the department has four noncriminal alternatives for processing enforcement cases: 1) civil court proceedings, 2) administrative order (AO), 3) notice of noncompliance, and 4) administrative penalty order (APO).

Chapter VII

Air Quality Enforcement

Civil Court Most Used

In the Enforcement Agreement, EPA and the department establish the definition of SV and agree to pursue SV cases, which include civil penalties, as priorities. Our audit work indicated the majority of cases processed by department management were SVs and the method most often pursued for enforcement action was civil court. Civil proceedings provide the department an opportunity to correct deficiencies and penalize owner/operators for violations of air quality rules/standards. From 1990 through 1993, the AQD resolved 23 enforcement cases by civil court action.

Recent Penalties Achieve Deterrence Effect

During our audit, we asked a sample of industry representatives about the affect of penalties on future air pollution control decisions. Most representatives in our sample expressed an awareness of recent enforcement cases involving their industry resulting from an increase in enforcement activity over the last three to four years. These representatives indicated a limited knowledge of cases/penalties involving other industry types.

Few Administrative Orders are Processed

A second enforcement alternative used by the department is the AO. AOs provide the department with a capability to direct a necessary corrective action within a reasonable period of time. The department processed seven AO cases from 1990 through 1993. According to staff, the enforcement request and legal review process is essentially the same for SV cases and cases pursued as AOs, although SVs require additional workload associated with penalty determinations and court filing.

APO and Notice of Non-compliance are not Used

AQD has not used the third and fourth alternatives, APO and notice of noncompliance. APO authority provides the department the option, without going to court, of assessing penalties of up to \$10,000 per day for each violation, not to exceed \$80,000. Authorized by the 1993 Legislature, management and staff have not established potential case application criteria or written administrative rules for APO use.

Notice of noncompliance authority allows the department to issue a violation notice, followed by owner/operator calculation

of a penalty and determination of a payment schedule in accordance with sections 75-2-422(1) and 75-2-423, MCA, respectively. Although notice of noncompliance was authorized during the 1979 legislative session, administrative rules have not been prepared to allow the department to use this enforcement tool. Staff indicated rules have not been developed because a similar EPA enforcement alternative proved too complex and has not been used.

**Enforcement Effectiveness
and Deterrence are
Limited**

The intent of air quality enforcement legislation is for the department to process enforcement cases to achieve the most deterrence possible while effectively using available statutory alternatives. A September 1993 enforcement status report listed 22 potential enforcement cases. Although these cases reflected violations of air quality rules, most were not pursued because of C&E and legal staff resource limitations. Staff indicated the 22 cases did not qualify as EPA SV civil cases, but could have been processed with APOs or notice of noncompliance, if the procedures were available. By limiting the scope of air quality enforcement options to SV cases and civil court/AO proceedings, the AQD restricts enforcement effectiveness and deterrence.

**Division Needs Procedures
for Low Priority Cases**

AQD has not developed procedures for processing low priority (non-SV) enforcement cases, which should be less complex to prepare and implement than civil court proceedings or AOs. The department has not established priorities concerning development of guidelines which would allow staff to determine whether to use APOs or notices of noncompliance, in addition to AOs and civil court. The department should develop, as a part of its enforcement request form preparation and technical review process, procedures to increase the use of available options: AO, APO, notice of noncompliance, or civil court.

Additionally, administrative rule preparation is necessary before staff can implement the APO or notice of noncompliance options. Ease of use or implementation by staff could be an initial consideration for determining which rules and/or procedures to write first. Other state departments, like the Department of State Lands, drafted similar enforcement option rules,

Chapter VII

Air Quality Enforcement

Permit Application Example of Low Priority Enforcement

and AQD could take advantage of preliminary work already accomplished.

In Chapter V, Air Quality Permits, we discuss the statutory requirement for owner/operators to submit applications for air quality permits. Nonsubmission of an application by an emission source subject to air quality laws is a violation of state statute. Relative to other violations, however, enforcement pursuit of a nonsubmission case is a low priority. Statute places responsibility on emission source owner/operators to apply for required air quality permits.

Although the department has statutory responsibility to pursue violations of air quality requirements, it is not obligated by statute to formally pursue them all. Significant increases in enforcement caseload resulting from a division effort to force unpermitted sources to submit permit applications is unlikely given existing workload priorities and use of available enforcement options. The department could pursue some permit application cases if streamlined AO or APO procedures were developed.

Department to Develop Rules for APO

In response to our concerns, the department acknowledged the current enforcement case focus is civil court proceedings. Recognizing the effectiveness of administrative orders, the department intends to pursue more AOs and to develop rules which allow for the use of APOs. Regarding notice of noncompliance, the department expressed concern about the possible complexity associated with this option and expects to proceed slowly with rule development. The department also advised increased use of non-civil proceedings (AO, APO, and notice) could result in more appeals to the Montana Board of Health and Environmental Sciences. The resultant appeal workload could reduce staff capability to process priority cases.

Recommendation #13

We recommend the Department of Health and Environmental Sciences:

- A. Develop administrative rules for the APO and notice of noncompliance allowed in statute.**
- B. Develop, as a part of the enforcement request process, guidelines for staff use of the AO, APO, or notice of noncompliance.**

***Assessment of Air Quality
Enforcement Audit Objective***

Our audit objective for air quality enforcement was based on the following question:

Do division procedures result in program enforcement which appropriately penalizes violators and deters future violations of Montana air pollution control requirements? We determined the division effectively documents compliance with penalty criteria designed to deter air quality violations. Enforcement caseload is limited to EPA priority significant violator cases. Legal and technical review limitations prevent the division from initiating more enforcement cases. Limited use of available enforcement options further impacts caseload capability. Although the trend reflecting an increase in air quality enforcement case activity over the past three to four years has positively impacted deterrence, enforcement caseload limitations reduce the department's achievement of enforcement deterrence.

Chapter VIII

Additional Division Functions

Some Air Quality Activities Impact Multiple Programs

During the course of our audit, we identified several air quality activities which did not tie directly to one of the division's primary functions addressed in previous chapters. We address county contracts, permit fee billing and collection, the Air Pollution Control Advisory Council (APCAC), and division organization and staff assignment in this chapter, since their activity within the division cross functional lines and impact multiple air quality programs.

Local Air Pollution Control Contracts

One of the responsibilities of the Department of Health and Environmental Sciences (DHES) is to encourage local units of government to handle air pollution problems within their respective jurisdictions. Statute allows the department to contract with local governments to share the cost of air pollution control programs. Six of seven counties became involved in state-county contracts because of state implementation plan (SIP) or Clean Air Act requirements. One county program was established based on proactive local effort to avert air quality problems. Division staff view proactive efforts as positive because it might mean avoiding a NAAQS exceedance and classification as nonattainment.

The state can fund up to 30 percent of local contributions through the General Fund. Counties also qualify for federal grant funds for specific local pollution control programs. During our audit, the department provided about 50 percent of the funding (state and federal) for the seven county programs. The following table shows county grant funding for fiscal years 1991-92 through 1993-94.

Chapter VIII

Additional Division Functions

Table 6

County Grant Funding
(FY 1991-92 through 1993-94)

	Fiscal Year 1991-92	Fiscal Year 1992-93	Fiscal Year 1993-94
Federal Grant	\$189,541	\$143,325	\$198,180
State General Fund		47,750	30,930
Total	<u>\$189,541</u>	<u>\$191,075</u>	<u>\$229,110</u>

Source: Compiled by the Office of the Legislative Auditor from
Statewide Budgeting and Accounting System records.

Butte/Silver Bow, Cascade, Flathead, Lewis and Clark, Lincoln, Missoula, and Yellowstone counties participated in the local air pollution control program during our audit.

Contract Requirements are Negotiated

AQD uses a set of guidelines to determine contract requirements and funding. Contract requirements are based on negotiations between the division and the county health officials. For example, for fiscal year 1993-94 limited state/federal funding extended negotiation for ambient air monitoring in one county. The county wanted additional state funding to operate the ambient air monitors in the county, and the state was reluctant to raise the funding level. Since the monitoring was a SIP requirement AQD considered alternatives to county operation of the monitoring site. The division determined alternatives other than county operation would cost the state more than AQD was currently paying the county so a compromise was reached.

Typically, locally unique programs (road dust, wood stove, open burning) determine specific contract requirements. SIP-related activity includes ambient air monitoring site operations, minor maintenance, and calibration. Three counties are also involved in emission source inspection, compliance monitoring, and permitting of sources emitting more than 25 tons but less than 100 tons of pollutants each year. Counties keep any fees for permits issued to support air pollution control programs. Counties involved in the contract program must have local air quality regulations for program control which have been

approved by the Montana Board of Health and Environmental Sciences.

Could Additional Work be Included in County Contracts?

During our audit, we discussed the potential for counties assuming additional air pollution control work currently accomplished by the division with county officials. Officials reflected counties could assume more work, such as pollution control education and work shops, if state/federal funding was provided. Counties also indicated more permitting, SIP, or compliance monitoring work was unlikely due to the lack of technical expertise.

We also addressed the possibility of less state and federal funding. County officials indicated ambient air monitoring would be reduced, emission inventory might not be accomplished, road dust monitoring could be reduced, and street sweeping programs might be eliminated. Also, SIP requirements might not be enforced by the county, because the state is responsible for compliance.

Contract Programs Enhance Air Quality Communication

Counties involved in local air pollution control programs operate as a buffer between the state/federal regulatory agency and local populations. County staff work with community/municipal representatives to solve problems and help establish local regulations for approval. Communication between division staff and county officials appear to have enhanced recent air pollution control problem-solving.

Conclusion: County Contracts are Useful

We found the establishment of local air pollution control programs through contracts with counties is efficient and the state benefits from the county contract concept.

Chapter VIII

Additional Division Functions

Annual Operation Fee Billing Process

In addition to new source and construction permits, Montana statute requires an annual operation fee for emissions. The fee schedules are the same as the rates used for air quality permit applications. Sources are required by statute to pay an emission operating permit fee or a new source or construction permit application fee each year, but not both. Fee calculations are based on previous year emission data developed during the annual emission inventory.

The billing process starts with an annual emission inventory conducted in January of each year. At this time, AQD sends a letter to each permitted facility requesting emission information for the previous year. Emission inventory data is to be submitted by March. Compliance and Enforcement (C&E) staff review the data as it is submitted and incorrect/questionable information is researched. A final report of the emission inventory information is sent to the facility for review/agreement. If industry representatives still have concerns about the data, AQD staff and the representatives negotiate on the factors used to calculate total emissions.

In November, an annual operation bill is sent to each emission source. The amount billed is based upon the annual emission inventory information. The minimum amount billed is \$250. Sources without defined annual emissions, such as gravel crushers and asphalt plants, pay the minimum amount.

*Conclusion: Fee Billing
Process is Timely and
Accurate*

We found the division's annual fee assessment, source notification, tracking, and billing procedures were timely and accurate.

Air Pollution Control Advisory Council

Statute authorizes a council appointed by the governor to act in an advisory capacity to the department. Section 75-2-123, MCA, requires the council to hold at least two regular meetings each calendar year. The Council has not met since prior to the 1993 legislative session.

AQD management indicated the division's highest priority advisory needs involve preparation of administrative rules resulting from the 1990 Clean Air Act Amendment. Specific technical expertise and experience with air quality issues is required to assist division staff with review of draft rules prior to submission to the Montana Board of Health and Environmental Sciences for approval. For Title V rules preparation, the division established, with the help of APCAC members, a sub-committee called the Clean Air Act Advisory Committee for assistance. Committee air quality expertise included Montana industry as well as academic representation.

The division relied upon the sub-committee to provide the advisory expertise required. As a result, the APCAC has not been convened since their involvement with the preparation of draft legislation prior to the 1993 session.

Intent of the Legislation

We believe the intent of the legislation creating the APCAC was to provide the department with the flexibility to seek advice as necessary. The division fulfilled its needs by creating the committee which assisted with rule review. Compliance with the statute requiring two Council meetings each calendar year would appear to result in inefficient use of available department resources and waste the time of appointed Council members. Statutory language should be developed which provides for the flexibility currently employed by AQD management.

The department indicated it intends to propose legislation which revises the makeup, utilization, and scheduling of the APCAC.

Recommendation #14

We recommend the Air Quality Division submit legislation to provide the flexibility to request Air Pollution Control Advisory Council meetings when needed.

Chapter VIII

Additional Division Functions

Division Organization and Staff Assignment Reviewed

During the course of our audit, while assessing AQD's functional compliance, we also examined division organization and staff assignment. Our evaluation of the division's air quality programs considered division structure, management control of functions and programs, workload priorities, and supervision of staff.

Conclusion: Organization and Staff Assignment Result in the Accomplishment of Air Quality Priorities

The current organizational structure provides supervisors the capability to establish section/unit workload priorities independently. We noted many instances throughout the report when due to resource limitations, supervisors prioritized work to accomplish requirements viewed as having the most significant impact on air quality in their area of responsibility. Examples include facility inspections, enforcement cases, and ambient air monitoring site audits. When priorities conflict between sections, for example the need to reassign staff resources from compliance and enforcement to SIP development, division management is involved in decision-making. While the current structure and staff assignment allows supervisors and management to prioritize, our findings and recommendations reflect areas where additional emphasis should be placed to ensure the intent of the Clean Air Act is met.

Plans for utilization of additional FTE approved for the 1994-95 biennium appear to support the intent of new federally-mandated air quality permit requirements. Staff for several of these FTE positions have been hired to support deficiencies identified in our audit report for inspection and compliance monitoring, ambient air monitoring, and enforcement.

Agency Response

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
DIRECTOR'S OFFICE

COGSWELL BUILDING
1400 BROADWAY
PO BOX 200901

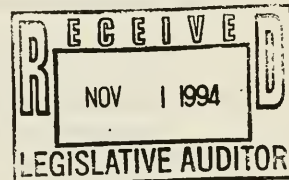


STATE OF MONTANA

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HELENA, MONTANA 59620-0901

November 1, 1994



Scott A. Seacat
Legislative Auditor
Office of the Legislative Auditor
State Capitol
Helena, Montana 59620-1705

Dear Mr. Seacat:

By this letter, I am transmitting the department's formal response to your Program Performance Audit findings and recommendations on the subject of the Air Quality Division's capability to achieve its fundamental mission as delegated by the department relative to managing our responsibilities under the provisions of both federal and state clean air laws and regulations.

We have responded to all fourteen recommendations contained in the report and have concurred or partially concurred with all of them.

I would like to personally thank your office and the audit staff that was assigned to this project for their dedication and professionalism through this lengthy and demanding process. Their findings and subsequent recommendations have provided a valuable service and insight into some of the problematic areas of this department's environmental regulatory responsibility.

I will be available, along with appropriate staff from both my office and the Air Quality Division, for the scheduled combined meeting of the Legislative Audit Committee and the Environmental Quality Council on Thursday, November 17, 1994.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert J. Robinson".
Robert J. Robinson
Director

cc: Jeff Chaffee, Administrator, Air Quality Division

Page 101

RESPONSE TO PERFORMANCE AUDIT REPORT: DHES AIR QUALITY PROGRAM

RECOMMENDATION #1

We recommend the Air Quality Division:

- A. Examine procedures for processing network manual sampler ambient air filters.
 - B. Evaluate availability of staff and equipment resources to ensure timely submission and review.
-

Response:

The Department of Health and Environmental Sciences (department) partially concurs with the recommendations and acknowledges that delays in processing manual sampling data have occurred. The Air Quality Division (AQD) has already taken steps to reduce the delays and will implement additional corrective action over the next year. However, as explained further in the following paragraphs, the department does not agree that the timing delays noted in the audit report result in significant program impacts.

Discussion:

That delays in the processing of manual sampling data have occurred are primarily due to four factors: late submittal of samples from field operators, personnel turnover, inadequate staffing in the air monitoring and data processing units, and laboratory analysis delays from the department's Chemistry Laboratory Bureau.

The auditor's report mentions that the delays negatively impact three areas: assuring compliance with the National Ambient Air Quality Standards (NAAQS), availability of Montana's ambient data to nationwide users, and availability of ambient data to division staff for such activities as permit review and SIP development.

Although some internal deadlines and occasionally federal deadlines for processing manual sampling data have been missed, Montana ranks as one of the top states for on-time submittals to the national Aerometric Information and Retrieval System (AIRS) according to the U.S. Environmental Protection Agency (EPA). It is our understanding that most states take two to three years after the end of the calendar year to update AIRS. Montana updates more than 95% of its ambient air quality data to AIRS within one year.

Compliance with the NAAQS for manual sampling data deals with only two pollutants: lead and particulate matter less than 10 microns (PM₁₀). It is important to reiterate one of the auditor's findings: EPA's reaction to NAAQS exceedances can take up to 500 days. For both legal and technical reasons, determining an NAAQS violation for lead and PM-10 and subsequently developing an emission control plan can take as much as five years.

For example, there are two PM₁₀ NAAQS (an annual average and a 24-hour standard) and a quarterly average standard for lead. A violation of the 24-hour PM-10 standard occurs when more than three exceedances are recorded over a three-year period (taking into account the sampling frequency). Similarly, the annual PM-10 standard is violated when the annual averages for three years exceed the NAAQS. The quarterly lead standard is violated when the quarterly average exceeds the NAAQS. Since compliance is associated with a three-year period (quarterly for lead), data processing delays in the range of one to three weeks, with some as high as six weeks, do not significantly delay the determination of compliance.

In regard to the concerns noted in the audit report regarding impacts on permit application review, most permit reviews are focused on areas where AQD does not operate manual particulate samplers. PM₁₀ data for these permit reviews comes from pre-monitoring by the company and this data is presented in the permit application. There are some permit reviews that occur for areas where AQD operates PM₁₀ samplers. The majority of these occur in Missoula, Great Falls, Billings, Kalispell, and Libby where AQD has collected particulate data for 10 to 15 years and the PM₁₀ NAAQS status of the area has been determined. Once again, delays of a few weeks in sample processing have negligible effects on the permitting process.

The 45-day criteria for sample processing is an internal AQD goal that was incorporated into AQD's Quality Assurance (QA) manual. When everything goes as planned, AQD can meet the 45-day deadline for PM₁₀ data but not lead. The auditor suggested that AQD consider the use of an outside laboratory in order to speed up lead analysis. AQD does not consider an outside laboratory as a viable option for several reasons: (a) analysis costs would significantly increase, (b) any gain in quick analysis would be offset by the additional shipping time, (c) the additional shipping could result in particulate loss from the filter, and (d) since most outside laboratories perform analysis for many of the industries regulated by AQD, the possibility of a conflict of interest exists.

The only sure way to speed up the process for PM-10 samples would be to replace the manual PM₁₀ samplers with real-time, continuous PM₁₀ monitors. Over the past year AQD has installed continuous PM-10 monitors in five Montana communities and will continue to expand to other communities as funding allows. Initial capital costs for one continuous PM₁₀ monitor amount to about \$23,000 or over \$322,000 for AQD's entire network.

The auditor's report mentions incorporating realistic time frames into the QA manual. The department agrees with the auditor and will revise the QA manual to provide for a 60-day timetable.

Corrective Action:

1. The department will increase its oversight of independent and county contractors to ensure that the deadlines for sample submittal are met. The division's manual sampling coordinator will notify the contractor in writing of its failure to comply with the sample submittal requirements. Continued failures will result in a reduction in payment and/or termination of the contract and selection of a new field operator.

Effective date: already implemented.

2. AQD will instruct the manual sampling coordinator to process samples and deliver them to the Chemistry Laboratory Bureau on a weekly basis.

Effective date: already implemented.

3. AQD will revise the standard county contract language to incorporate criteria for timely submission of filters and review of minimasters.

Effective date: already implemented.

4. AQD will revise the QA manual to increase the processing time for manual sampling data from 45 to 60 days.

Effective date: July 1, 1995.

5. AQD will expand the data processing staff to include two data processing technicians.

Effective date: already implemented.

6. AQD will provide cross-training for data processing staff to provide full-time coverage.

Effective date: ongoing.

7. AQD will coordinate with the Chemistry Laboratory Bureau to evaluate sample handling and analysis procedures, evaluate staff and equipment resources, and develop methodologies to comply with AQD data submittal deadlines. AQD will suggest improvements in a written memo to the department's director.

Effective date: March 1, 1995.

RECOMMENDATION #2

We recommend the Air Quality Division establish a system to verify and track accomplishment of precision and calibration for network manual samplers.

Response:

The department concurs with the recommendation. We have implemented a manual tracking system for precision and calibration data and have plans to develop a computer-based system in the future.

Discussion:

The missing precision data was located, and it has been updated to EPA's Precision and Accuracy Reporting System (PARS). If a tracking system had been in place at the time, the problem would have been identified and corrected.

The failure to properly file the calibration and precision reports was due to several reasons: (a) personnel turnover in the monitoring and data processing units that occurred during this time period, (b) the changeover to a centralized filing system for ambient monitoring information, and (c) personnel turnover in the secretarial staff responsible for maintaining the file system.

Corrective Action:

1. AQD will implement a formal training program for new and existing clerical staff which includes the fundamentals of filing and detailed information on AQD's filing system, and emphasizes the importance of accurate filing.

Effective Date: January 1, 1995.

2. AQD will implement a quality assurance program to ensure accurate filing. The quality assurance program will require the designation of a clerical quality assurance officer to spot check two percent of the monitoring files per week. In addition, other staff will be instructed to report filing problems they discover to the quality assurance officer.

Effective Date: January 1, 1995.

3. AQD already has improved upon the manual system to track calibrations, precision and accuracy checks, and the resulting data. The manual system now includes:

Calibrations:

The division's manual sampling coordinator maintains a PC-based computer program for entering calibration data for total suspended particulate, lead, and manual PM-10 samplers. The program retains the last three calibrations for each monitor and, by reviewing the program files on a weekly basis, the manual sampling coordinator is aware of upcoming and overdue calibrations. To provide oversight the air monitoring supervisor reviews the same files on a monthly basis.

The gaseous sampling coordinator receives calibration data from the field operators as calibrations are performed. Calibration data is also received on the postcards which are submitted to report precision data. By reviewing this information on a weekly basis, the gaseous sampling coordinator can identify overdue calibrations and notify the field operator.

Accuracy:

The air monitoring supervisor prepares a quarterly audit schedule and checks off each performance audit as it is completed. The air monitoring supervisor reviews the schedule weekly and notifies the appropriate staff member of any overdue audits. At the end of the quarter, the air monitoring staff fill out computer input forms for the accuracy data and submit the data to the data processing technician for input to PARS.

Precision:

Precision for total suspended particulate, lead, and manual PM-10 samplers consists of operating collocated monitors. Therefore, the data is part of the normal air monitoring data stream. At the end of the quarter, the manual sampling coordinator completes computer input forms for precision data and submits the forms to the data processing technician for input to PARS.

However, for gaseous monitors the field operators must perform precision checks on a weekly or biweekly basis. Upon completion of a precision check the field operator mails in a postcard with the results. The gaseous monitoring coordinator reviews these cards to ensure the precision checks are being done on schedule. At the end of the quarter the field operator mails in a computer input form containing all of the precision checks for the quarter. This form is submitted to the data processing technician for input to PARS.

Data Processing of Precision and Accuracy Data:

The data processing technician maintains a form to document the receipt of quarterly precision and accuracy data and when the data is updated to PARS.

Possible Future Improvements:

Although the manual tracking system is working, AQD is investigating the feasibility of developing a computer-based tracking system. Such a tracking system would document the performance of precision checks, quarterly audits (accuracy) and calibrations, and notify the responsible staff and the air monitoring supervisor of overdue audits, calibrations and precision checks. The system would initially consist of a simple **Precision, Audit and Calibration Schedule Form** residing on the division's PC computer network. The system would initially cover state and county monitoring sites, but could be expanded to include state audits of prioritized industrial sites.

Effective Date: The manual tracking system is already implemented. AQD is in the process of hiring a Data Management Unit supervisor which will bring the unit to full staff and should allow additional time for computer program development. AQD will decide whether a computerized system is feasible by March 1, 1995 and, if it is feasible, implement the system by October 1, 1995.

RECOMMENDATIONS #3 AND #4

- #3** We recommend the Air Quality Division establish controls and tracking for company-operated site ambient air data and quality assurance reports.
- #4** We recommend the Air Quality Division establish risk categories for company-operated sites to prioritize performance audit workload.

Response to Recommendations #3 and #4:

The department partially concurs with the above recommendations and acknowledges insufficient tracking of company data submittals and quarterly reports as well as delays in reviewing them. However, we believe the deficiencies are not as common nor as significant as described in the auditor's report. AQD has already taken some steps to correct the deficiencies and will be implementing additional corrective action.

Discussion:

Most of the problems mentioned in the auditor's report are the direct result of conscious decisions to shift FTEs from the Air Monitoring Unit into other division programs. Just a few years ago there were six positions in AQD's Air Monitoring Unit. As mentioned in the auditor's report, for the time frame covered by the audit, there were only three people directly involved with the monitoring program. The Air Monitoring Unit experienced a 50% reduction in personnel while the workload increased slightly.

In light of the personnel limitations, the AQD decided to review company data only as time allowed. This resulted in time delays and cursory reviews of some company data and quarterly reports. The Air Monitoring Unit supervisor prioritized the review of company data so that the highest risk companies/sites were promptly reviewed.

Some of the deficiencies noted and statements made in the auditor's report are not completely accurate. On page 31, the audit report states "Documentation of non-network company-operated site accuracy, recorded through performance audits, is required quarterly by federal regulation." This requirement only applies to monitoring required as part of a Prevention of Significant Deterioration (PSD) permit and only to criteria air pollutants (pollutants for which National Ambient Air Quality Standards have been promulgated). In addition, some of the missing precision and accuracy data noted by the auditor are related to problems at individual facilities and are not related to tracking or controls at AQD. For example, a fire at ASARCO destroyed historical plant records in 1992, Montana Resources had invalid calibrations thereby voiding a quarter of data, and Stone Container's PM-10 network precision data is reported by Missoula County.

The deficiencies noted with the company air monitoring are not severe. However, we acknowledge that tracking of company data submittals and quarterly reports could be better and that delays have occurred in reviewing the data and quarterly reports. We also acknowledge that the number of performance audits on company air monitoring networks is insufficient. AQD has already taken some steps to remedy these deficiencies and has identified other steps to be taken in the future.

Corrective Action:

1. AQD will develop a form to document the receipt of company data submittals and quarterly reports. The AQD company data processing technician will report late company data and quarterly report submittals, in writing, to the supervisors of AQD's Air Monitoring Unit and Compliance & Enforcement Section.

Effective date: January 1, 1995.

2. AQD will continue to store the quarterly reports in a central location filed chronologically by company. However, AQD will develop a checkout system in order to track reports when they are removed for any reason.

Effective date: January 1, 1995.

3. AQD recently created and filled the position of gaseous monitoring coordinator. This position is responsible for AQD's gaseous monitoring program. This includes special studies, the SLAMS network, the Billings area SO₂ network, and related data processing and QA activities. These duties will be transferred from the Air Monitoring Unit supervisor, thus allowing that person to spend more time reviewing company air monitoring activities.

Effective date: full-time transfer of duties by January 1, 1995.

4. AQD has requested through the Executive Planning Process an additional FTE for the Air Monitoring Unit. The duties assigned to this position will include conducting performance audits on company air monitoring networks and assessing company compliance with applicable quality assurance requirements.

Effective date: August 1, 1995.

5. The Air Monitoring Unit supervisor will continue to prioritize company monitoring reviews with the high risk operations receiving the most attention. The prioritized list will be presented to the Planning and Technical Support and Compliance and Enforcement Section supervisors for concurrence.

Effective date: ongoing.

RECOMMENDATION #5

We recommend the Air Quality Division seek legislation to provide for mutually agreed-upon extensions to the current 60-day criteria for issuing a department determination.

Response:

The department concurs with this recommendation.

Discussion:

AQD acknowledges that permit issuance in a small number of instances has gone beyond the 60-day statutory time line. However, these extensions are the exception, and they were done to accommodate the requests of permit applicants who wanted more time for discussion and negotiation of permit conditions with AQD. The only other way to obtain the extra time is to appeal the department determination to the Board of Health and Environmental Sciences, a process that can take several months to resolve. AQD agrees that the statute should be changed to "allow" the practical approach we have been using and we are proposing the following corrective action.

Corrective Action:

1. AQD submitted a proposal to submit legislation to allow mutually agreed-upon extensions of the 60-day time frame.

Effective Date: approved.

2. Drafting of proposed legislation by division staff.

Effective Date: November 9, 1994.

3. Submission of proposed legislation to 1995 Legislature.

Effective Date: January, 1995.

RECOMMENDATION #6

We recommend the Air Quality Division establish procedures to notify and follow up with sources regarding the statutory requirement to submit air quality permit applications.

Response:

The department concurs with this recommendation.

Discussion:

Based upon our discussions with the Legislative Auditor, AQD agrees that procedures for notification and follow-up with sources that may need an air quality permit would be useful in better implementing the air permitting program. However, it is important to acknowledge that additional procedures will not by themselves identify all sources that may need a permit. Significant additions to staff and an aggressive "investigation" approach would likely be needed to identify and pursue all potential sources needing a permit.

The division's Permitting Section has developed a permitting policy manual which details policies and procedures used by permitting staff. The section plans to develop additional procedures to comply with the auditor's recommendations and to add these procedures to the policy manual.

Corrective Action:

1. AQD permitting staff will develop a draft procedure detailing the responsibilities and procedures for notification and follow-up (i.e., letters, telephone contacts, on-site visits) with unpermitted sources.

Effective Date: January 1, 1995.

2. The draft procedure will be reviewed by other permitting staff and the Compliance and Enforcement Section.

Effective Date: January 15, 1995.

3. AQD will finalize the procedures, place them in the permitting policy manual and provide them to Compliance and Enforcement Section staff.

Effective Date: February 1, 1995.

RECOMMENDATION #7

We recommend the Air Quality Division develop a checklist for inspection preparation, on-site inspection, and report content.

Response:

The department concurs with this recommendation.

Discussion:

In response to an interim audit communication, the AQD's Compliance and Enforcement (C&E) Section developed a compliance inspection procedure in March, 1994. This procedure incorporates new and established procedures into a comprehensive policy. C&E Section staff currently use this procedure when preparing for, conducting and reporting on Level II inspections. It uses a standard format for inspection reports that is emission point-specific. The inspectors use this format as a pre-inspection checklist during the file search. During the inspection, the form is updated and completed. The final inspection report includes this updated form and a narrative of the inspection. The C&E Section and the new Air Quality Technician position are currently working together to develop a pre-inspection checklist that is generated from the computerized source database. It will contain all the pertinent information about the source necessary for the inspector to conduct a Level II inspection.

Corrective Action:

1. Develop a detailed inspection procedure outlining the steps required for a valid Level II compliance inspection.

Effective Date: completed.

2. Prepare a pre-inspection checklist generated from the computerized source database for use by the field inspectors.

Effective Date: March, 1995.

RECOMMENDATION #8

We recommend the Air Quality Division:

- A. Coordinate with EPA to establish policy for accomplishing both announced and unannounced compliance inspections.**
 - B. Schedule year-round compliance inspections.**
 - C. Review and coordinate division travel schedules.**
 - D. Consider using noninspection staff for minor/less complex inspection requirements.**
-

Response:

The department concurs with parts A, B and C of this recommendation, and we partially concur with part D.

Discussion:

The department acknowledges the need to clarify the EPA policy regarding unannounced compliance inspections, considering the distances that compliance staff need to travel and the need for "surprise" inspections. It is our general perspective that unannounced inspections are important in achieving a deterrent effect. However, this perspective needs to be balanced with the lost time in taking a trip to the far corner of the state to find out the source has been shut down. Compliance and enforcement staff are initiating year-round inspections and are focusing on increasing the efficiency of travel through coordination of schedules and responsibilities. A new section supervisor was hired June 1, 1994 to oversee these efforts and an Air Quality Technician position was added to aid in tracking and documentation. Furthermore, non-inspection staff are directed to make unscheduled observations (including opacity readings if certified) of air pollution problems when in the field. However, AQD believes that only trained inspectors are qualified to complete Level II compliance inspections. Further, non-inspection staff have other responsibilities and only limited time to contribute to compliance-related activities.

Corrective Action:

- 1. Compliance and Enforcement (C&E) Section staff will determine appropriate facilities for announced vs. unannounced inspections during development of the yearly inspection plan (CMS).**

Effective Date: by October 1st of each year, with adjustments during the year as appropriate.

- 2. Year-round inspections will be scheduled by C&E staff as part of the CMS plan and as directed by the C&E Section supervisor.**

Effective Date: implemented and ongoing.

3. The C&E Section staff and supervisor will review and coordinate travel schedules during preparation of the yearly inspection plan and during weekly C&E Section meetings.

Effective Date: implemented and ongoing.

4. Non-inspection staff have been directed to observe and document air pollution problems when in the field.

Effective Date: implemented and ongoing.

5. A weekly/biweekly electronic mail "news update" has been developed to inform division staff on permitting activities. It will be expanded to include compliance activities, travel schedules, etc., to assist staff in coordination.

Effective Date: December 1, 1995.

RECOMMENDATION #9

We recommend that Air Quality Division management establish a tracking capability to assure receipt of required reports, timely review by staff, and compliance with EPA database management requirements.

Response:

The department concurs with this recommendation.

Discussion:

An Air Quality Technician (tracking) position has been established and filled, and tracking procedures are being developed. The C&E Section has been fully staffed and each inspector is responsible for all aspects of their sources, including compliance reports. Additionally, staff has received training on use of the EPA AIRS database. The section will assure that all compliance reports will be reviewed, evaluated and incorporated into the tracking system, when developed. The technician position will notify inspectors when a facility's report is overdue.

Corrective Action:

1. Fill all available compliance and enforcement positions and the Air Quality Technician position to clearly assign responsibilities for all regulated sources.

Effective Date: Section supervisor filled June 1, 1994; Air Quality Technician filled July 25, 1994; and remaining C&E positions filled September 12, 1994. A new Western Montana compliance position will be filled by January 15, 1995.

2. A computerized tracking system will be developed to assure receipt of required compliance information and timely updates into the EPA AIRS database.

Effective Date: February 15, 1995.

RECOMMENDATION #10

We recommend that Air Quality Division management establish a complaint tracking system.

Response:

The department concurs with this recommendation.

Discussion:

Procedures have been established for the investigation of all complaints received by AQD. The Air Quality Technician position has been established and filled and a complaint tracking system is under development. A database is being designed to log all complaints, including all pertinent information such as source, location, and resolution. The complaints will be cross-referenced and the information made accessible to the staff and public. The C&E staff are expected to provide all information necessary for the technician to make complete entries in the system.

Corrective Action:

1. Air Quality Technician position established to develop and maintain tracking system.

Effective Date: filled on July 25, 1994.

2. A complaint tracking system will be developed as discussed above.

Effective Date: February 1, 1995.

RECOMMENDATION #11

We recommend the Air Quality Division develop a citation tracking system.

Response:

The department concurs with this recommendation.

Discussion:

An essential part of any enforcement action is tracking and resolution. It is department policy that all citations issued must be resolved in some manner. A citation tracking system is under development. The system will be a database which will include important activities during an enforcement action. It will present a cross-referenced, cradle-to-grave capsulized account of each enforcement action. The database will supplement the enforcement file.

Corrective Action:

1. See previous responses regarding the addition of necessary staff.
2. A citation tracking system will be developed as discussed above.

Effective Date: February 1, 1995.

RECOMMENDATION #12

We recommend that Air Quality Division management more effectively balance technical review and research workload between C&E and attorney staff.

Response:

The department concurs with this recommendation.

Discussion:

Procedures have been implemented to assure that technical review of cases is conducted by C&E staff and summarized appropriately for attorneys. A more judicious review process for enforcement requests has been implemented to help assure that all necessary information is included before the staff attorneys are given the case. C&E staff have been instructed to make enforcement request packages (ER) as detailed as possible. ERs are reviewed and comments given by involved peers, supervisory staff and staff attorneys; ERs are then returned for revision if necessary. The goal is to have complete technical information in the ERs before they are sent to management and assigned to a staff attorney. Recent enforcement requests have shown significant improvement in completeness after going through this review/comment process. The filling of all C&E Section positions has also added to the resources available for a thorough technical review of enforcement actions.

Corrective Action:

1. See previous responses regarding the additions to C&E Section staff.
2. The C&E Section supervisor has implemented the procedures described above to assure a complete technical review of an enforcement request prior to referral to management and the attorneys.

Effective Date: implemented and ongoing.

3. The second attorney position assigned to AQD in December, 1994 has also helped alleviate the attorney work overload situation noted during the audit.

RECOMMENDATION #13

We recommend the Department of Health and Environmental Sciences:

- A. Develop administrative rules for the APO and notice of noncompliance allowed in the statute.**
 - B. Develop, as part of the enforcement request process, guidelines for staff use of the AO, APO, or notice of noncompliance.**
-

Response:

The department partially concurs with this recommendation.

Discussion:

The department considers Administrative Penalty Orders (APOs) to be an important enforcement tool. Procedures, guidelines, and rules for the APO are currently being developed by C&E and legal staff. Possible procedures have been worked out and potential cases have been selected. Since there is no statutory requirement for APO rule development, the department has decided to pursue several cases before attempting to finalize the rules. Experience with these cases will be important in developing effective rules.

The notice of noncompliance has very limited value as an enforcement tool. The procedures necessary to implement the notice of noncompliance would be complex, cumbersome and time-consuming. The EPA has a similar enforcement tool (the basis for Montana's statute) which they do not use for these reasons. Further, the anticipated use of the APO makes the need for the notice of noncompliance obsolete.

We are putting a low priority on pursuing rulemaking or further use of the notice of noncompliance at this point. The division will follow up with EPA to better determine the potential use of this part of the statute. If no uses are identified, we will initiate a process to eliminate the notice of noncompliance from the state statute.

The department has established an Enforcement Task Force and is developing an Enforcement Policy Manual defining enforcement procedures and policies for the department. The division is active in this effort and anticipates that the policy manual will aid us in developing guidelines for using available enforcement tools in the air program.

Corrective Action:

- 1. Develop administrative rules for use of APOs and present to Board of Health and Environmental Sciences for hearing and adoption.**

Effective Date: March 15, 1995 (depending on Board schedule).

- 2. Further investigate use of notice of noncompliance with EPA and decide on potential uses or elimination from state statute.**

Effective Date: October, 1995.

3. Continue participation in Enforcement Task Force and development of department enforcement policy.

Effective Date: ongoing; policy manual developed by January 1, 1995.

RECOMMENDATION #14

We recommend the Air Quality Division submit legislation to provide the flexibility to request Air Pollution Advisory Council meetings when needed.

Response:

The department concurs with this recommendation.

Discussion:

The Air Pollution Control Advisory Council (APCAC) has had limited involvement in air program activities in recent years. Prior to the 1993 Legislature, AQD formed a Clean Air Act Advisory Committee (CAAAC) to advise and work with us on key Federal Clean Air Act implementation issues. We have found the CAAAC to be helpful in designing our program, drafting legislation, and preparing rules. With this experience, we are planning to propose legislation to the 1995 Session to redesign APCAC (change the statutory mandated membership) to be similar to the CAAAC, to simplify the process for appointing APCAC members, and to provide more flexibility in APCAC meeting schedules.

Corrective Action:

1. Draft legislation to review APCAC membership and appointment procedures and to require a more flexible meeting schedule.

Effective Date: November 9, 1994.

NOTE: Proposed legislation will be reviewed with APCAC and CAAAC on November 3, 1994.

2. Submit proposed legislation to 1995 Session.

Effective Date: January, 1995.

